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Social Media and Library Services

Lorri Mon

***SYNTHESIS LECTURES ON INFORMATION
CONCEPTS, RETRIEVAL, AND SERVICES***

Gary Marchionini, *Series Editor*

Social Media and Library Services

Synthesis Lectures on Information Concepts, Retrieval, and Services

Editor

Gary Marchionini, *University of North Carolina, Chapel Hill*

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Lorri Mon

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Social Media and Library Services

Lorri Mon

Florida State University

*SYNTHESIS LECTURES ON INFORMATION CONCEPTS,
RETRIEVAL, AND SERVICES #40*



MORGAN & CLAYPOOL PUBLISHERS

ABSTRACT

The rise of social media technologies has created new ways to seek and share information for millions of users worldwide, but also has presented new challenges for libraries in meeting users where they are within social spaces. From social networking sites such as Facebook and Google+, and microblogging platforms such as Twitter and Tumblr to the image and video sites of YouTube, Flickr, Instagram, and to geotagging sites such as Foursquare, libraries have responded by establishing footholds within a variety of social media platforms and seeking new ways of engaging with online users in social spaces. Libraries are also responding to new social review sites such as Yelp and TripAdvisor, awareness sites including StumbleUpon, Pinterest, Goodreads, and Reddit, and social question-and-answer (Q&A) sites such as Yahoo! Answers—sites which engage social media users in functions similar to traditional library content curation, readers' advisory, information and referral, and reference services.

Establishing a social media presence extends the library's physical manifestation into virtual space and increases the library's visibility, reach, and impact. However, beyond simply establishing a social presence for the library, a greater challenge is building effective and engaging social media sites that successfully adapt a library's visibility, voice, and presence to the unique contexts, audiences, and cultures within diverse social media sites. This lecture examines the research and theory on social media and libraries, providing an overview of what is known and what is not yet known about libraries and social media. [Chapter 1](#) focuses on the social media environments within which libraries are establishing a presence, including how social media sites differ from each other, yet work together within a social ecosphere. [Chapter 2](#) examines how libraries are engaging with users across a variety of social media platforms and the extent to which libraries are involved in using these different social media platforms, as well as the activities of libraries in presenting a social “self,” sharing information, and interacting with users via social media. [Chapter 3](#) explores metrics and measures for assessing the impact of the library's activity in social media sites. The book concludes with [Chapter 4](#) on evolving directions for libraries and social media, including potential implications of new and emerging technologies for libraries in social spaces.

KEYWORDS

social media, libraries, social networking

Contents

	Preface	xiii
1	The Social Media Environment	1
1.1	Social Media Defined	1
1.2	Types and Typologies of Social Media	2
1.3	Features of Social Sites	4
1.3.1	Profiles	5
1.3.2	Updates	6
1.3.3	Aggregation and Feeds	6
1.3.4	Collection-building	7
1.3.5	Finding and Organizing	7
1.3.6	Joining and Inviting	8
1.3.7	Sharing and Accessing	9
1.3.8	Proximity	10
1.3.9	Direct Interaction	10
1.3.10	Popularity	11
1.3.11	Incentives	12
1.3.12	Crowdsourcing	12
1.4	Differences	13
1.4.1	Culture and Communication Styles	14
1.4.2	User Demographics	15
1.4.3	Users and Uses	16
1.5	The Social Ecosphere	17
1.6	Library 2.0	18
2	Libraries and Social Media	19
2.1	History of Social Media Adoption in Libraries	19
2.1.1	Early Impact of Social Technologies on Libraries	19
2.1.2	Footprint of Libraries in Social Media	22
2.2	Social Profiles of Libraries	23
2.3	Uses for Social Media Among Libraries	24
2.3.1	Assessment, Feedback, and Monitoring	24

2.3.2	Outreach	25
2.3.3	Promotion	26
2.3.4	Advocacy, Fundraising, and Recruitment	26
2.3.5	Reference and Social Care Services	27
2.3.6	Education	29
2.3.7	Collections and Co-creation	30
3	Assessing Social Media Sites and Services	33
3.1	Presence	33
3.2	Visibility	35
3.3	Voice	36
3.4	Interaction	38
3.5	Reach	40
3.6	Impact	42
3.7	Reputation	44
3.8	Data Analysis in Assessment	45
4	Evolving Directions in Social Libraries	49
4.1	The Changing Roles of Libraries	49
4.1.1	The Virtual Branch	50
4.1.2	The Social Library	50
4.1.3	The Mobile Library	51
4.1.4	The Making Library	52
4.1.5	The Ubiquitous Library	54
4.2	Evolving Directions	55
	Bibliography	59
	Author Biography	73

Preface

Social media is a relative newcomer to the information technology field, with most of the sites that are commonly referred to in popular usage having launched since 2003; some popular sites such as Pinterest and Instagram launched as recently as 2010. Because social sites themselves are such a recent development, the topic area for this book of Social Media and Library Services remains an area of rapid and ongoing change.

This lecture builds upon empirical research by the author and by others within the information science field to provide an overview of the developments and directions taken by libraries in providing services using social media, and the considerations that shape and influence decision-making for libraries in adapting services to social spaces. While it is not the intention here to provide an exhaustive listing of all social media implementations by libraries, coverage here provides a view of the depth and scope of library services in social sites, and includes as well perspectives on both opportunities and challenges for libraries in their continuing expansion into social media in the future. I would like to thank the reviewers and editors for all their invaluable assistance, and my family, friends, and colleagues for their unwavering support.

Lorri Mon
December 2014

CHAPTER 1

The Social Media Environment

In [Chapter 1](#), the lecture focuses on the social media environments within which libraries are establishing a presence, including how social media sites differ from each other, yet work together within a social ecosystem.

1.1 SOCIAL MEDIA DEFINED

The term “social media” envisions a new type of media that is shared and participatory in nature, involving others in the information lifecycle of creation, organization, sharing, finding, and use. Internet-based social sites such as Facebook, Twitter, Tumblr, YouTube, Flickr, and Delicious provide a variety of digital spaces that house and support interactive and participatory information sharing, and offer new forms of collective and collaborative information creation. When Tim O’Reilly ([2005](#)) sought to define the early emergence of “Web 2.0” social and participatory media technologies, he described an essential aspect as “harnessing collective intelligence,” and drew conceptual comparisons between Web 1.0 and Web 2.0 such as:

- publishing vs. participation;
- content management systems vs. wikis;
- directories (taxonomy) vs. tagging (“folksonomy”); and
- Britannica Online vs. Wikipedia.

The stream of postings that you see shared on a social site such as Facebook or Twitter is fundamentally a communal creation. For example, when Davies ([2012](#)) studied Facebook wall postings, she interviewed “friendship groups” of the Facebook page owners and their friends and asked them to talk together about their contributions toward collectively creating the owner’s Facebook page. On Twitter, participatory narratives of world events emerge in social postings linked together through shared hashtags such as #OccupyWallStreet. By implementing features that support and encourage not only passive consumption of information but active response, Web 2.0 media creates opportunities for social participation and contribution. These aspects of interactive contribution and participatory creation distinguish Web 2.0 social media technologies from the static, hierarchical, and closed media forms of Web 1.0.

At the heart of social media is the facilitation of interconnections between users, not only for supporting information sharing, communication and collaboration, but also for making visible the social web of relationships between users. Ellison and boyd (2013, p. 158) define social networking sites such as Facebook and MySpace as a “networked communication platform” with specific functionalities such as individual profiles that demonstrate traversable connections to other users, and the ability to “consume, produce, and/or interact with streams of user generated content provided by their connections on the site.” Farkas (2007, p. 1) uses the broader term “social software” to encompass the universe of social sites, the nature of which she describes as facilitating at least two of three essential types of activities: 1) communication, collaboration, and community building; 2) syndication, sharing, reuse, or remixing; and 3) learning from and capitalizing on others’ behavior and knowledge.

1.2 TYPES AND TYPOLOGIES OF SOCIAL MEDIA

Despite an ever-growing universe of social sites, there is as yet no firm consensus on how to classify or categorize all social media sites. Three categories of social media sites are generally agreed upon in common usage.

Table 1.1: Types and Examples of Social Media Sites	
Social Site Categories	Examples
Social networking	Facebook, MySpace, Google+
Microblogging	Twitter, Tumblr
Social bookmarking/tagging	Delicious, Diigo

Beyond these exist many other social media sites that don’t fit exactly within these categories, such as Flickr and Instagram for sharing images, or YouTube and Vimeo for sharing videos. Anttiroiko and Savolainen (2011, p. 89) described these sites for sharing images and video as “content-based social networks” and LinkedIn as a “special interest network” since it is a social network but with a particular focus on business and professions. Naik (2012, p. 320) referred to “biblio-social” sites such as GoodReads and LibraryThing for sharing book collections, book reviews, and discussions, while Abbas (2010, p. 180) described these as “social cataloging” sites. Mon and Phillips (2015) used the terms “crowdsourced review sites” for Yelp and TripAdvisor, “digital curation sites” for social collection-building sites such as Pinterest, and “geo-location sites” as a term for social sites such as Foursquare which allow users to check in online to a geographic location.

Other attempts at over-arching category suggestions have sought to categorize sites by key functionalities. Spiteri (2006, p. 78) characterized sites such as Delicious for organizing and sharing web-based links as “social bookmark managers.” Mon and Phillips (2015) used the terms “content aggregation sites” and “awareness sites” in referring to social content-promoting sites such as StumbleUpon and Reddit which bring crowdsourced attention to news and information. Among many other variations of sites considered by some to be within social space are “social chatting” sites such as SnapChat and ChatRoulette, and sites such as Yahoo!Answers for crowdsourced questioning and answering, which have variously been described as “social Q&A” sites (Shah et al., 2008) and “social reference” sites (Gazan, 2007). Shah et al. (2014, p. 676) further subdivide Q&A sites in a typology which restricts “social Q&A” to sites such as Facebook and Twitter, while identifying sites such as Yahoo!Answers as “community-based Q&A,” and sites such as WikiAnswers as “collaborative Q&A.”

A key distinction among the broader range of social sites is in the focus on enabling a personal social network vs. creating connections within the broader social community. While social networking sites such as Facebook primarily support the building of an online personal social network among family, friends, colleagues, and acquaintances, social community-based sites such as social Q&A sites create connections and support information exchanges among a larger community of users who may never have met before, yet are enabled to connect and interact with each other around questions, topics, projects, activities, or other shared interests. Figure 1.1 shows examples of sites typically described as “social media” at the center of the larger social universe, while other sites often mentioned as part of a broader “social sphere” are shown here around the periphery.

The lack of overall agreement on social media categories or typologies demonstrates one of the inherent challenges with social sites in that they are not static, but instead are prone to evolving new functionalities which frequently cross categories. For example, Twitter, while known as a microblog, has evolved toward video sharing similar to YouTube with the addition of Vine videos, whereas Yelp, which primarily shares social reviews, has incorporated geolocation check-in functionality similar to Four-square. Further, trends toward merging and blending of social features into traditional resources are changing fundamental library resources such as catalogs and vendor databases by blurring the distinctions between library resources and the social sphere. LibraryThing for Libraries is one example which integrates biblio-social features such as user ratings and reviews and tagging into the library’s online catalog. Other vendor offerings merging social features into library catalogs and databases include

Bibliocommons and Aquabrowser. Spiteri and Tarulli (2012, p. 137) referred to “social discovery systems” in describing these enhancements to library catalogs and databases.

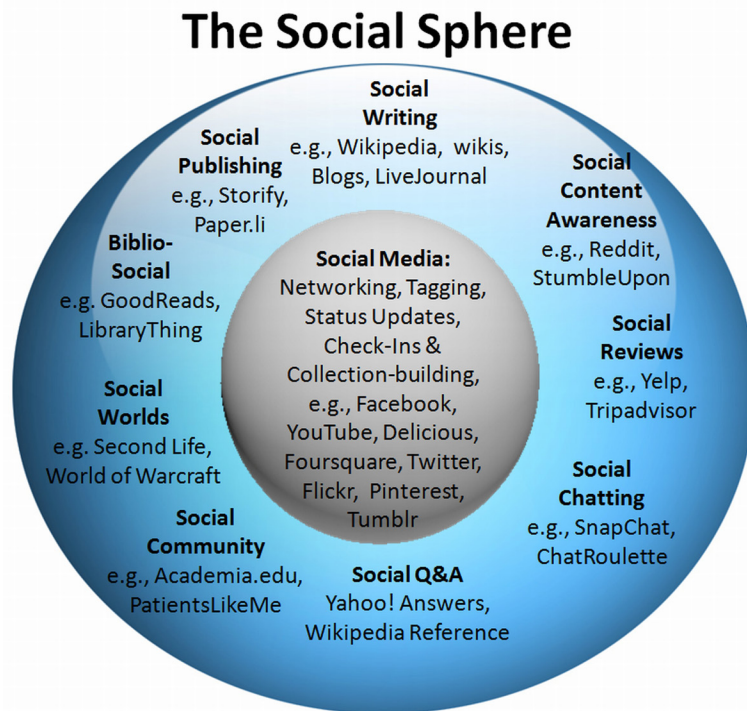


Figure 1.1: The Social Sphere.

For libraries considering the provision of services using social sites, a key decision is selecting among this wide variety of different social sites to implement those which will provide the best fit for the library’s needs in terms of features, functionalities, and ability to reach out to desired audiences in social space.

1.3 FEATURES OF SOCIAL SITES

In selecting a social site, the library may first consider the particular features, or affordances, that the site offers which will shape the provision of services. Typical features and functionalities of social sites include:

- profiles,
- updates,

- aggregation and feeds,
- collection building,
- finding and organizing,
- joining and inviting,
- sharing and accessing,
- proximity,
- direct interaction,
- popularity,
- incentives, and
- crowdsourcing.

Individual social sites may implement all or some of these typical features, and in selecting among social sites, a library may consider how the presence or absence of each of these features would affect the library's efforts to provide information and services to library users.

1.3.1 PROFILES

Social sites typically involve creation of a “personal profile.” This profile presents a social “self” through text and images by sharing personal photos, biographical information, and personal preferences such as favorite activities, “likes,” and “dislikes.”

For libraries, this raises issues of library-as-person in social space. How should the social “persona” of a library be represented in text and images? A social profile may ask the library to fill in biographical details such as educational and work history, provide a personal photo, age and gender, and a variety of other information such as favorite books, music, and movies.

A potentially challenging issue in creating library social profiles is age, a required field due to legal issues around underage users. A library which has been in existence for less than 13 years can inadvertently trigger a problem of being considered an ineligible “underage” user by disclosing an age of 12 or younger when creating a social site profile. The library may as a result find itself locked out of its social site account, or the account may be disabled or deleted.

The profile also is the source for the metadata that will be used for finding the library. Biography fields, “about” information, and other details the library supplies here will be viewed by users whom the library wishes to attract, and will be indexed by in-site and external search engines for purposes of locating the library in social space. The creation of a library’s social profile is a dual challenge in how to use text and images to create the social persona of a library, making it both “findable” and “personable” (Smeaton and Davis, 2014).

1.3.2 UPDATES

Social networking and microblogging sites often include an “update” feature in which users can post a personal news update using combinations of text, visuals, and links. Personal updates are a key part of the fabric of social site interactions. Some social sites may limit the length of these update postings; for example, on Twitter, updates must be no longer than 140 characters.

In addition to posting length, other key considerations for updates are the library’s posting frequency and choices of content. Frequency of posting involves the library in seeking a balance between updating with new content often enough to attract and maintain interest without overwhelming the audience. Librarians have also questioned what content is best suited to social spaces. Smeaton and Davis (2014, p. 229) quote a librarian interviewed in their study as saying that users “*don’t get on social media to listen to you, they get on social media to be heard. They don’t want to like us if we’re just going to constantly talk about us, we need to talk about them and what they might be interested in.*” Solomon (2013, p.59) noted that at Columbus Metropolitan Library, a ratio of 70% original content to 20% interactions with users and 10% promotional postings is used in providing a general guideline for social site postings.

1.3.3 AGGREGATION AND FEEDS

Some social sites such as Facebook aggregate users’ postings into a “news feed,” which collects and displays the latest news from the site’s users. These feeds often have subscription features which allow users to selectively include or exclude particular streams of postings—for example, choosing to receive a stream of the postings from friends, family, and other users “liked” on Facebook, or to receive a tailored stream of postings from subscriptions to specific areas within a content aggregation awareness site such as Reddit, or to specific user channels on YouTube. RSS (Really Simple Syndication) allows users to subscribe to blog postings using a feed reader.

1.3.4 COLLECTION-BUILDING

Social sites may offer various ways of creating and collecting content in association with the profile, such as images, videos, audio, web links, or other content. Sometimes a browser-based “bookmarklet” can be used to facilitate adding of items to a social site collection. Other affordances that social sites may provide for the building of collections includes ability to upload video files, or to favorite online web links or images in order to associate particular content items with a social site profile.

Overall, social collection-building offers opportunities for curation of traditional types of content—images, video, books, online articles—within a new social space, including shared collection-building where multiple users can work together to “crowd source” the building of a collection.

1.3.5 FINDING AND ORGANIZING

Social sites offer a variety of features for organizing content and information. For example, Twitter users can create lists of users who tweet similar content, and save “favorite” tweets by other users. Delicious and Diigo users can organize and find collections of similar web links using social tagging. Pinterest users can organize images and their linked source sites by pinning them to different topic-themed “pinboards.” These affordances suggest intriguing new opportunities for libraries, such as the ability to curate and organize the best and most important postings from social sites such as Facebook or Twitter, or to organize lists of the social profiles of key experts in different fields. External social publishing tools such as Storify and Paper.li have also emerged to support the organizing, sharing, and publishing of social content.

Standard “searchbox” features within social sites often function poorly, which makes alternative social organizing and finding features even more critical—if they don’t exist, users may invent them as happened with the development of the hashtag by Twitter users. Hashtags on Twitter as a user-created innovation are attributed to Chris Messina ([Gannes, 2010](#)) who in 2007 suggested using them on Twitter as a way to be able to find threads of related messages and to hold larger conversations involving many users.

The dynamic and creative nature of users and uses in social sites occasionally gives rise to new ways of using existing features for sharing and organizing content. Similar new uses have occurred with tagging, a finding and organizing feature implemented in sites such as Delicious and Flickr which allows users to apply their own terminologies in identifying collection items. When aggregated together, user tags become “folksonomies” of user-created metadata, augmenting controlled vocabulary

systems with an added ability to search or browse by colloquial and popularly used terms (Abbas, 2010). Tags can be clicked on or searched to not only bring up a user's own tagged items, but also items other users have saved with this tag. The “plain language” tags of user-centered folksonomies helps to make collection items more accessible and findable.

On some sites such as Facebook, the ability to tag photos and multiple different people within a photo has changed tagging from being primarily an organizing and finding feature to also becoming an awareness and notification feature. The awareness aspect is triggered when people are alerted by other users tagging a picture with their name—thus, Facebook users can tag pictures with people's names even when they do not appear in the actual picture, and use this as a way of bringing the picture to someone's attention.

1.3.6 JOINING AND INVITING

Essential to the social experience is the ability to join, whether by following or friending another user, joining a group, or participating in a multi-user social event such as a Twitter chat. Inviting acts as an alerting feature that brings an activity or event to awareness, and encourages users in joining together with others to create a shared experience. Joining makes visible existing social ties, and helps to build new social connections. Among the social site affordances that make possible inviting and joining with others are:

- issuing group invitations;
- sending event invitations; and,
- following or friending other users.

Facebook, Goodreads, LinkedIn, Meetup, and Diigo are examples of social sites where users can invite each other to join groups. On these sites, users can set up public or private groups and issue invitations to other users who can then choose to accept or decline an invitation to join the group. Members of groups can share in activities together, including engaging in discussions on topics of shared interests, or working together to build shared collections. Groups are used in a variety of ways, from supporting classes or workshops to organizing co-workers on a project, to interacting with fellow hobbyists who share the same interests. On academic social sites such as Mendeley and Academia.edu, groups may reflect areas of scholarship and publishing shared by academic researchers, while on a business-oriented social site such as LinkedIn, groups may coalesce around business and professional interests.

Facebook and Google+ offer “event invitation” options which allow users to send out notices about an upcoming event, and to ask recipients to post RSVPs. Recipients typically can respond by publicly indicate a likelihood as to whether they will attend, such as “yes,” “no,” or “maybe.” Being able to see who else has been invited and who has responded as planning to attend an event can in turn influence users’ choices about joining the event. Event invitations can support activity such as a social gathering or concert in the “real world,” or an event in other online and social spaces, such as an invitation to a virtual world event in Second Life or to a Twitter chat.

The most basic aspect of “joining” in social space is at a one-to-one level in “following” or “friending” another social site user. This type of “joining” involves seeking and granting access to a user’s personal social profile. On some sites, this decision about allowing access must be mutually reciprocated; that is, the two users must agree to “friend” and “be friended” and if one party rejects the friendship request or does not respond, access is not granted. Boyd (2009) pointed out that this builds in reciprocity of friendship as a fundamental part of the culture for sites such as Facebook and LinkedIn, unlike on other sites such as Twitter where one-directional following of users by other users is allowed without any requirement for pre-approval or reciprocity.

1.3.7 SHARING AND ACCESSING

Sharing makes social content accessible and visible to others. Social sites will typically allow users to choose whether to make their social site profile, postings, and file uploads entirely private so that no one else can see them, or share them publicly so that other users can also find and access them. Often users can direct and control their sharing on a social site to limit accessibility of some postings to friends and/or family, while choosing to share other postings more widely with the general public.

Ability to control sharing and accessing may vary in how fine-grained control can be in directing sharing and access toward other users. Social sites will often have built-in categories of users for differentiated sharing, such as “family,” “friends,” and “the public,” but may differ in other options for controlling access and sharing. Google+ supports a more sophisticated ability to specify different clusters or “circles” of users for sharing items. By allowing the creation of these “circles” of users, Google+ gives users a fine-grained control of access; for example, a library could share items with specific user interest groups on Google+, as with sharing a posting about genealogy with a circle of genealogists, and sharing a posting about a photography resources with a circle of photographers. Building in these types of social site features for controlling and access and sharing gives users more power over what sociologist

Erving Goffman (1997, p. 51) referred to as the “conversational preserve” in terms of “the right of an individual to exert some control over who can summon him into talk and when he can be summoned; and ... to have their circle protected from entrance and overhearing by others.”

1.3.8 PROXIMITY

Online social sites may also offer proximity features that share location information for social site users. Proximity or “social geolocation” functions allow users to know when other users are physically present in or near the same location—as for example, when both are simultaneously present at a library’s coffee shop, bookstore, or auditorium. Proximity awareness features can support and facilitate offline, in-person interactions, allowing users to find each other and meet in “real life” and to participate in an event together, such as a meeting or shared activity. Specific social affordances making this possible include “check-ins,” where users log their current presence at a location, and event scheduling social sites such as Meetup where users can arrange in-person meetings with other users.

Check-in tools can include features showing who has logged in most often at a location. On Foursquare, the user who has logged in most often during the last month is shown as the “mayor” of that location, and some organizations offer rewards to their current “mayors.” Check-ins may show how many other users are currently present at a location on social sites such as Yelp. Proximity sites may also show other information about a location, and offer options for users to post tips and suggestions about how best to use a location.

1.3.9 DIRECT INTERACTION

Social sites with options for direct interactions with other users may include a variety of different types of communication features from posting and commenting to live chatting, messaging, “poking,” gifting, and other possibilities for supporting interpersonal social exchanges. These direct communication options may be limited to one-to-one interactions with a specific user, such as engaging in asynchronous private messaging or synchronous chatting with a single user. However, some social sites may also offer “many-to-many” direct communication abilities in addition to “one-to-one” communication options.

For example, Google+ has a “Hangout” feature which allows live direct “one-to-one” video chatting, but can also support “many-to-many” direct video chatting for groups of directly participating invited users. These live Hangout sessions can also

optionally be set up to allow streamed viewing access for the larger public as non-participating live audience members.

On some sites, users have the ability to incentivize each other with gift-giving. A user on Reddit might be rewarded by another user with a gift of “Reddit Gold” for sharing a particularly funny, insightful, or interesting posting, with the incentive that the “gold” temporarily opens access to a special area of the social site not available to “ungilded” users.

Sites may also implement features that restrict direct interaction options. On Twitter, users can directly private message each other, but only if both already are following each other. If there is no reciprocal following relationship, direct messaging is not allowed.

1.3.10 POPULARITY

Social site popularity features give users options for rating, ranking, and otherwise indicating approval or disapproval of postings, threads, comments, and uploaded or shared images and videos. These popularity indicators might include upvotes and downvotes, “likes,” numerical scale ratings and other ways of displaying an opinion. Results may then be tabulated automatically to display a popularity score of the total “likes,” upvotes, downvotes, or other ratings that a particular shared item has attracted.

For some sites, popularity ratings may then be used to prioritize how shared postings are displayed. For example, on Reddit the most popular postings as voted on by the community of users will rise to be shown at the top of the displayed items, while unpopular postings are “buried” by being shown at the bottom of the list of postings.

Popularity may also be indicated by the number of times an item is viewed. On YouTube, videos that have received high numbers of viewings and “thumbs-up” votes may be selected to be featured on the front page of the YouTube website. On Facebook, popular postings that have attracted more user engagement through “likes,” comments, and re-sharings rise higher in newsfeed visibility, while on Twitter a popularly re-shared tweet may be listed among the “top” tweeted postings. Users who originate a popular hashtag may see their hashtag listed among the “trending topics” on Twitter.

Re-sharings of postings are another popularity indicator which is sometimes made visible—for example, a social site may show how many times each posting has been re-shared by other users, in addition to the number of “likes” or “upvotes” the posting has attracted. Comments and responses to postings might be counted. Since

popularity can be suggestive of quality, it is often used both as a way of directing attention on social sites and as a criteria in sorting through social content.

1.3.11 INCENTIVES

Social sites often include features that incentivize and reward users for engaging in specific site interactions by keeping and tabulating scores for user activities, and offering increasing levels of rewards in response to increased or repeated activities. A Foursquare user who “checks in” at the library more often than any other user in that month is rewarded by receiving the honorary title of “mayor” of that location. In addition, Foursquare utilizes “badgification” or “gamification” features to award active users with special medals, such as Bookworm medals earned by checking in at libraries.

Another incentive is to provide a sequence of honorary titles that can be earned by users who “level up” through their activity in a social site, from titles that reflect novice levels of achievement through titles demonstrating increasing activity, mastery, or expertise. Completing a certain set, sequence, or number of activities within the social site might trigger the awarding of a new title.

High scores can act as another incentive. For example, social site users might receive “points” for posting, commenting, or other activities, and may receive points for the number of “upvotes” attracted by their postings from other social site users. Maintaining or surpassing a high score can motivate a user to continue participating in social site activities.

1.3.12 CROWDSOURCING

An important attribute of social sites is the ability to access and leverage “the wisdom of the crowds” for purposes such as information-seeking, collaboration, or decision-making. Gazan (2007, p. 242) referred to the “collaborative architecture” within social sites “where content and value are created by aggregate participation and opinion.” For example, in social review sites such as TripAdvisor or Yelp, and in geolocation check-in sites such as Foursquare, crowdsourced ratings, reviews, and suggested tips posted by prior users can offer useful insights from the past experiences of others.

In social Q&A sites, the responses of many users contribute toward creating an aggregated answer to question. In socially enabled apps such as Waze, drivers contribute updates about driving hazards and obstructions which become part of a crowd-created real-time map of current driving conditions. Within social tagging sites such as Flickr, the tags contributed by individual users when joined together create a larger “folksonomy” of user-centered terminology, which as Abbas (2010) has noted,

increases possibilities for finding the needed resources as well as offering potential for improving and augmenting existing controlled vocabularies. Hashtags on Twitter and Instagram similarly become a means for gaining access to a crowdsourced narrative of what's happening right now all over the world, allowing users to locate and tap into crowd-sourced commentary, images, and insights on topics of interest from hundreds or thousands of other users.

Crowd-sourcing of knowledge has also appeared in varying adaptations in the commercial world, resulting in user-contributed lists, ratings, rankings, reviews, and activities appearing within shopping sites such as Amazon.com, where users are shown what others have purchased and how others have rated and reviewed products. In Amazon's Mechanical Turk or "mTurk," the term "social work" takes on a new connotation in crowdsourced labor; for instance, the Amazon online shopping feature which automatically suggests additional items that you might like based on the purchasing patterns of other users is further checked and refined for accuracy by online crowd-sourced human workers, hired to contribute individual efforts toward completing this larger work project through mTurk (Planet Money, 2015). Web 2.0 crowdsourced collaborations can also be seen in wikis such as Wikipedia, which likewise allow users around the world to contribute toward creating crowdsourced encyclopedia articles, or toward collectively answering social Q&A questions on Wikipedia's reference desk. The enabling of crowdsourcing functionalities within social sites is a key attribute in supporting the social creation of new information and resources, and enabling new socially enabled ways of accessing online content.

1.4 DIFFERENCES

One way to look at the differences between social sites is in the features and functionalities implemented or not implemented. Another way to differentiate is by areas of specialization in the specific focus of the social site. For example, among the social networking sites, LinkedIn has a specific focus on business and professional-level networking connections, while Facebook or Google+ operate as general-purpose social networking sites. Many other social sites utilize this distinction of a narrower or specialized focus distinguishing them from the general-purpose social sites, such as TeacherTube which specializes as an education-focused social video site, as compared to general-focused video sites such as YouTube and Vimeo. A narrower-focused social site offers an opportunity to reach a specific audience, while a more general-purpose social site may potentially reach a broader audience.

Social sites can also be further differentiated from each other based on dimensions of their user aspects, such as the demographic populations of users who are attracted to the site, and their shared culture and communication styles. From site to site, cultural conventions for communication styles may vary widely, and the demographic makeup of the user audience for the sites may also be markedly different. Understanding these differences can be an essential element in a library’s successful communication strategy in social space.

1.4.1 CULTURE AND COMMUNICATION STYLES

Beyond the influences of the social site’s affordances and constraints, the site’s users also bring an influence of shared culture and communication styles. One example of engaging with user culture and communication styles might be a library social media manager deciding to regularly use certain appropriate “day of the week” postings. Twitter, Tumblr, and Instagram are social sites that have “days of the week” hashtag posting traditions, with opportunities to engage with other users in popular postings for days such as #MusicMonday, and #FridayReads. Adding a popular hashtag to the library’s messages can also make postings more “findable” by desired user audiences on Twitter, taking advantage of Twitter’s user culture in reaching a wider audience. Table 1.2 shows “weekday hashtags” which are one example of social site-specific cultural features of communication on Twitter and Instagram.

Table 1.2: Weekday hashtags on Twitter and Instagram	
Weekday	Associated Hashtags
Monday	#MusicMonday, #ManicMonday, #MondayBlues
Tuesday	#TransformationTuesday, #TakeMeBackTuesday, #TipTuesday, #TravelTuesday
Wednesday	#WellnessWednesday, #WednesdayWisdom, #Humpday
Thursday	#ThrowbackThursday, #TBT, #Thursdate
Friday	#FollowFriday, #FF, #FridayReads, #FlashbackFriday, #FBF, #FridayFacts
Saturday	#Caturday, #SocialSaturday, #WkendThx, #SaturdaySwag
Sunday	#SelfieSunday, #SundayFunday

Unique communication styles influenced by site architecture can also be part of a social site’s particular culture. On sites with shorter message lengths such as Twitter and Tumblr, characteristic abbreviations have evolved to replace a variety of commonly used longer words and phrases, such as “IDK” for “I don’t know” among

many others. On Reddit, a commonly used communication convention is for posters to conclude a long posting with a short, one-sentence summary, prefaced with “TL:DR” for “too long, didn’t read.” This allows other site users to skip over a long “wall of text” posting and read the TL:DR: short summary first before then deciding whether to read any further.

The presence or absence of emoticons or emojis within a social site can be another aspect of a social site’s unique culture and communication style, as well as the use of specific memes frequently shared in written quotes, images, or videos that serve as in-jokes and shared cultural referents among users of a social site. There are many “meme-maker” and “meme-generator” sites online where examples of the latest imagery-based memes or frequently reoccurring memes such as “Doge” or “Grumpy Cat” can be observed for insights into how meme-based images are created and used. In general, the more conversant a library’s social media manager is with the unique cultures and communication styles used within each individual social site, the better the library will be able to blend in with other site users and to communicate and interact successfully.

1.4.2 USER DEMOGRAPHICS

Over 171 million Americans were using social networks in 2012, with social site activity increasingly common in particular among teens and younger adults under age 30 (Duggan and Brenner, 2013; Nielsen, 2012). In 2012, 81% of online teens were social media users, and by January 2014, 89% of young adults under age 30 were using social networking sites, as were 74% of all online adults in the U.S. (Pew Research Center, 2014a, 2014b). Facebook remains the most popular social media site for all age groups, and is attracting increasing usage from older adults and seniors (Nielsen, 2014; Smith, 2013). As of January 2014, Pew Internet research has indicated that the ranks of social media users now include 82% of 30–49 year olds; 65% of 50–64 year olds, and 49% of seniors aged 65 and older in the U.S. (Pew Research Center, 2014a), with much of this user growth across age groups centered on Facebook use.

Among the various individual social media sites, user demographics vary in terms of age, gender, and ethnicity. For example, while 94% of teenaged social media users in 2012 were on Facebook, few teens showed any interest in the professional social networking site LinkedIn—yet 36% of adult social media users over age 30 maintain LinkedIn profiles (Pew Research Center, 2014b; Lenhart et al., 2010). Twitter meanwhile has been growing in popularity among teenage users, increasing from 8%

usage among U.S. teens in 2006 to 16% in 2011, and rising to 24% in 2012 (Madden et al., 2013; Pew Research Center, 2014b).

Minority and ethnic groups also have distinctive patterns in usage of social sites. Among younger Black Internet users aged 18–29, 40% use Twitter, as compared to only 28% of White users in the same age group (Smith, 2014). Instagram likewise is attracting a higher rate of usage among younger Black and Hispanic users (Duggan and Smith, 2013; Smith, 2014). If the library is seeking to use social media for outreach to diverse groups of users, knowing where the users are within social space becomes a key consideration.

Differences by gender in social site usage patterns can also be observed, as some sites are more strongly “gendered” in their user audiences than others, and these differences suggest implications for content that would be most welcomed by a social site’s users. For example, according to Nielsen data, Pinterest skews overwhelmingly female—84% of Pinterest users are women (Duggan and Brenner, 2013; Nielsen, 2012, 2014). In an analysis of 11,000 Pinterest postings, Zarrella (2013) found that many of the most commonly “pinned” and “repinned” words were food-related such as “recipes,” “food,” “ingredients,” and “baking.” Knowledge of a social site’s user demographics and interest areas can suggest valuable intersections with a library’s special collections and services, helping the library to better design and position postings on the right social sites for reaching the desired user audiences.

1.4.3 USERS AND USES

Social sites not only have different users, but different uses. For Facebook users, the site is mainly about “having fun” and doing “social searching” (Quan-Haase and Young, 2010, p. 352). Facebook requires use of real names, and this allows users to more easily find old friends, and keep up to date on social events as well as to search and find out information about people they know. Facebook users may check the site repeatedly during the day, and tend on average to have from 150 to 250 Facebook “friends” (Hampton et al., 2012; Quan-Haase and Young, 2010; Ellison et al., 2007).

On Twitter, many users post infrequently (Honey and Herring, 2009; Huberman et al., 2009), and instead use Twitter for scanning and reading news and information via posts by other users. A 2009 study of 309,740 users indicated that Twitter users follow about 80 other users on average, and are followed by 85 other users (Huberman et al., 2009). About one-quarter to one-third of tweets from Twitter users are conversationally directed toward other specific users by including the “@” sign followed by the addressee’s Twitter username (Huberman et al., 2009; Herring and Kurtz,

2006). Since Twitter does not require the use of real names, there is a greater sense of anonymity. Among teens using Twitter, the number of followers can be perceived as interlinked with social status; as one teenager stated, “if you follow more people than follow you, you aren’t cool” (Horn, 2013, p. 60).

These differences between social site users and uses demonstrate why selecting the right social site is key issue for libraries, and also why a library might choose to implement more than one social site, both to reach a broader audience of users, and to serve a wider range of purposes.

1.5 THE SOCIAL ECOSPHERE

Together, social media sites of all varieties make up a social ecosphere. Sites may differ from each other profoundly—such as social video-hosting sites as compared to social networks—yet may frequently be used together, as when libraries post a video onto their YouTube channels and then share it across from YouTube onto their Facebook pages. Common uses of social sites in combinations include using Flickr images to illustrate Facebook messages, or Twitter tweets to promote YouTube videos. Different users and different libraries select the combinations of social sites most appropriate for their particular uses; for example, when Nicholas and Rowlands (2011, p. 63) asked the question “which tools ‘go together’ when academics start to incorporate social media into their research workflow?” they found that among academic researchers, the two most common tool pairings were blogging and microblogging, followed by social networking and microblogging.

Information flows across the social ecosphere commonly originate from certain social sites and then propagate across to others. Twitter and YouTube often function as origin points for news and popular culture items that are retweeted and then re-shared to social networks such as Facebook and news aggregation and awareness social sites such as Reddit, and then are picked up and republished in online news stories by bloggers and journalists. The reverse can also occur, with news items originating in traditional news or web-based news and blogs being picked up and spread through republishing on social media. Social media, the blogosphere, web-based news sites, and traditional news sources are thus interlinked in information flows. Social media and traditional media are becoming inextricably intertwined, with each providing content to the other, and increasingly the social sites of a business or news organization are functioning as another interrelated part of the larger organization or institution.

1.6 LIBRARY 2.0

In the early days of social media, the advent of new “Web 2.0” social media technologies sparked discussions of what the implications would be for libraries. The early discussions about libraries and social sites in the professional literature frequently used the term “Library 2.0,” attributed to Michael Casey ([Casey and Savastinuk, 2006](#)). Maness ([2006](#)) defined Library 2.0 as “the application of interactive, collaborative, and multi-media web-based technologies to web-based library services and collections” with four key elements in common of being:

- user-centered,
- multi-media,
- socially rich, and
- communally innovative.

Crawford ([2006](#), p. 4) collected some of the early commentary among the professional community regarding Library 2.0, which included comments such as:

- “Library 2.0 is disruptive”;
- “Library 2.0 means constant change”;
- “Library 2.0 puts the librarian anywhere a user’s heart takes them”; and
- “Library 2.0 doesn’t (or shouldn’t) allow for a concise definition.”

An assumption that libraries should adopt or adapt these new social technologies has philosophical underpinnings that include a core service concept among librarians of meeting users wherever they are at the “point of need” ([Lipow, 1999](#)). Abbas ([2010](#), p. 177) described Library 2.0 as “the application of Web 2.0 technologies, applications, and philosophies within the library context to improve or provide new services to user communities.” However, Zimmer ([2013](#), p. 31) has noted that the social library threatens to disrupt core principles of protection for library user privacy, because “to take full advantage of Web 2.0 platforms and technologies to deliver Library 2.0 services, libraries will need to capture and retain personal information from their patrons.” As libraries move forward in exploring uses for social media, the disruptive as well as the beneficial aspects should be carefully considered.

CHAPTER 2

Libraries and Social Media

Chapter 2 examines how libraries are engaging with users across a variety of social media platforms and the extent to which libraries are involved in using these different social media platforms, as well as the activities of libraries in presenting a social “self,” sharing information, and interacting with users via social media.

2.1 HISTORY OF SOCIAL MEDIA ADOPTION IN LIBRARIES

Historically, libraries have a long tradition of adopting new technologies and exploring how to use them in interacting with users. Ryan (1996) traced a history of libraries using a variety of technologies progressing from correspondence mail to teletype, telephone, e-mail, and MOO (“Multi-user domain, Object-Oriented”—a text-based virtual environment allowing real-time online interaction). In the 1980s, librarians began to experiment with e-mail reference and chat-based live reference services (Ware et al., 2000; Borgendale and Weise, 1986). Just prior to the arrival of social media technologies, library chat and e-mail digital reference services had been evolving from being experimental in the 1990s, to being perceived by the early and mid-2000s as a commonly accepted and typical aspect of providing customer services in the larger public and academic libraries. By the mid-2000s, chat reference had become so widespread that Coffman and Arret (2004a, 2004b) wrote a two-part series of articles critiquing chat services in libraries.

Thus libraries had already launched websites in the 1990s, and then in the early 2000s had started providing chat and e-mail digital reference services, when a next wave of participatory technologies—social media and virtual worlds—began to appear simultaneously on the scene in the late 1990s with sites such as SixDegrees, and accelerating in 2002 and onward with the launch of Friendster as the start of a new wave of social sites.

2.1.1 EARLY IMPACT OF SOCIAL TECHNOLOGIES ON LIBRARIES

The social networking site MySpace launched in August 2003, while Facebook (originally “the facebook”) launched in February 2004. Other social site launches during

the same timeframe included Flickr for image sharing in February 2004, YouTube for video sharing in February 2005, and Twitter for microblogging in March 2006.

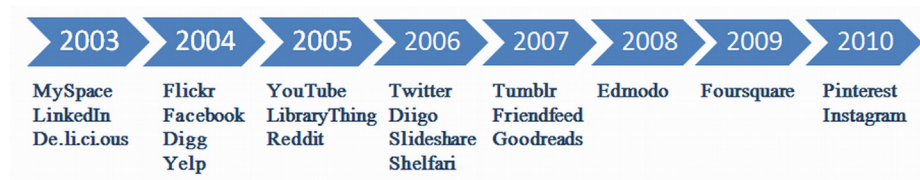


Figure 2.1: Social media sites by launch date.

Initially, Facebook was restricted to students at Harvard University, but in 2005 Facebook began expanding to other campuses nationwide. Colleges and universities, such as South Carolina's Coastal Carolina University, added to Facebook in Spring 2005, and Florida's Jacksonville State University (JSU), added in Fall 2005, noticed that Facebook's arrival prompted increasing demands on the library's computers; at JSU, librarians also observed lines of students waiting to digitize photos on the library's digital scanners (Graham et al., 2009; Charnigo and Barnett-Ellis, 2007). MySpace was having a similar impact at U.S. public libraries. However, initially for many libraries the primary concern was less focused on whether libraries themselves should join Facebook or MySpace, but rather more on whether use of library computers and bandwidth should be allowed to be used for Facebook and MySpace at all—and at some institutions, social site access was blocked.

In about 2005–2007, the first pioneering libraries began to explore possible uses of social media technologies, and MySpace's popularity with teens gained it a strong early popularity among libraries: Since Facebook did not begin expanding to U.S. high schools until September 2005 and was not open to all users until September 2006 (boyd, 2011), teens who lacked college or university e-mail addresses gravitated toward MySpace during 2004 and 2005. Musicians and bands also were attracted to MySpace after being expelled from the earlier social network Friendster (boyd and Ellison, 2007), which created a potent mix on MySpace of teens, bands and music fans.

During the early years, Facebook limited profiles to regular users rather than institutions, and in 2006, Facebook deleted profiles of some of the libraries that had set up institutional Facebook sites. (Graham et al., 2009) Charnigo and Barnett-Ellis (2007) estimated that close to 100 libraries had established their Facebook sites at the time these institutional account deletions occurred in October 2006. As a result of these Facebook limitations, some of the early library adopters were individual librarians who used personal Facebook profiles to interact with users (Mack et al., 2007)

or librarians using other workarounds such as setting up Facebook Groups (Charnigo and Barnett-Ellis, 2007; Xia, 2009).

A key challenge for libraries in launching social sites was a lack of library staff members trained in or familiar with Web 2.0 technologies. When Charnigo and Ellis (2007) conducted a survey of 126 academic librarians in 2006, only two librarians reported that their institutions had Facebook profiles; and although most of the librarians surveyed had at least heard of Facebook (n=114), some reported general unfamiliarity with social media at their institution, with one librarian responding that “most librarians at my institution are unaware of social software in general, much less Facebook.” (p. 27) At the Public Library of Charlotte and Mecklenburg County, Helene Blowers built upon a 2005 article by Stephen Abram (2006) entitled “43 Things You (or I) Might Want to Do This Year” to develop “Learning 2.0,” a Web 2.0 training program for library staff (Blowers and Reed, 2007, p. 13). This training tool, also popularly known as the “23 Things,” was posted online and made freely available for use by other libraries, with the result that hundreds of libraries worldwide began adopting and using the “Learning 2.0” training program to familiarize their staff with using and launching social sites. Among early public library adopters of new social technologies were Orange County Library in Florida, which was the first public library to offer RSS feeds in 2005, and Danbury Public Library in Connecticut which was the first to integrate LibraryThing social tagging into its online catalog in 2007 (Mon, 2011).

In 2008, two early studies found MySpace outpacing Facebook in adoption among U.S. public libraries:

- A 2008 study of 242 U.S. public libraries found 95 libraries using MySpace, as compared to only 38 using Facebook (Mon and Randeree, 2009).
- In another 2008 study of 483 U.S. public libraries, only 11% of public libraries serving populations of 500,000 or more were using Facebook, as compared to 30% using MySpace (Lietzau, 2009).

That this reversed so completely in the next two years shows the volatile nature of social media use. By 2010, Facebook adoption surged nearly 700% among the U.S. public libraries (Lietzau and Helgren, 2011) with 80% of the 84 largest public libraries and 89 of 100 ARL member libraries operating Facebook sites (Mahmood and Richardson, 2011), even as MySpace usage practically disappeared.

A similar surge also occurred in libraries adopting Twitter within the timeframe of 2008–2010:

- In a study of 296 academic libraries on Twitter, the researchers discovered that most of the libraries had launched their Twitter accounts in 2009 (Del Bosque et al., 2012).
- In another study of 433 academic, public, state, and national libraries on Twitter, a sharp increase in libraries on Twitter occurring in 2009 was likewise observed (Stuart, 2010).

2.1.2 FOOTPRINT OF LIBRARIES IN SOCIAL MEDIA

The footprint of libraries in social media demonstrates where libraries tend to be present or absent across social media sites. A 2012 study observed that the largest U.S. public libraries most commonly were found on Facebook (93%), Twitter (84%), YouTube/Vimeo (60%), Flickr (42%), Foursquare (31%), and Pinterest (23%), but less commonly found on Google+ (8%) and Tumblr (8%) (Wanucha and Hofschire, 2013).

While there is no comprehensive directory of libraries using social media and thus no census of the full extent of social media adoption among libraries, recent research offers these insights into social site usage among libraries:

- *Larger libraries tend to be the early adopters.* Studies in 2008 and 2010 by the Library Research Service show that Facebook use in 2008 was at 11% of the largest U.S. public libraries serving 500,000+ as compared to 5% of libraries serving user populations of 100,000–499,999; in 2010, Facebook presence increased to include 80% of the largest libraries serving 500,000+ and 58% of the libraries in the 100,000–499,999 population range (Lietzau, 2009; Lietzau and Helgren, 2011).
- *Social media use is becoming mainstream among libraries.* In a 2011 study of U.S. public libraries, 55% of 5,958 libraries in 38 states either had library Facebook pages or Twitter accounts (Crawford, 2014). By 2012 in a third study by the Library Research Service, Facebook use was reaching near ubiquity at 93% among the largest U.S. public libraries serving 500,000+ but also had jumped to 81% among libraries in the 100,000–499,999 population range, 68% among libraries serving users in the 10,000–24,999 population range, and reached 54% penetration even among the smallest libraries in the study serving populations of fewer than 10,000 users (Wanucha and Hofschire, 2013).

2.2 SOCIAL PROFILES OF LIBRARIES

In launching social sites, the social media site's profile becomes the "public face" of the library. Social media profiles typically include a mixture of personal pictures and biographical text, which raises questions of "impression management" in terms of how a library should ideally be representing its "self" in social sites. Questions that may be prompted in setting up a library's social site profile include:

- What "self image" should the library be presenting through visuals on social site profiles?
- What "personal history" should a library provide in biographical fields on social sites?
- How should a library's "personality" and "voice" be represented in social site profiles?
- What "likes," "dislikes," and web links should be part of a library's social profile?

In an ethnographic study of a public library, Carlsson (2012, p. 206) referred to a persona of "the nice and caring library," that the staff sought to present via social media. Smeaton and Davis (2014, p. 228) found in interviews with librarians that in social media sites they wanted to give their library a "follow-worthy personality" that was welcoming and personable.

Practices in managing library social site profiles are constantly changing. For example, at one time libraries did not vary their social profile images and banners after establishing their profile pages, but a common practice has developed more recently of changing social profile banner images to commemorate events, such as major holidays or the launching of library programs for specific timeframes including African American History Month, Banned Books Week, Summer Reading programs, and many other events. Also while in the past, each library was once essentially "on its own" in designing profile pages and images, more recently it has become possible to download images and banners prepared and tailored especially for library social site profiles by advocacy groups and national organizations, such as the American Library Association. At times, this has resulted in many libraries losing their social site "individuality" and instead sharing an identical social profile appearance nationwide when using the same nationally provided banner images on sites such as Facebook.

2.3 USES FOR SOCIAL MEDIA AMONG LIBRARIES

Libraries have adopted and used their social media sites for a variety of purposes, including:

- *assessment* of the library from the user perspective, including soliciting user feedback and monitoring user comments on blogs and social sites;
- *outreach* to new audiences of library users;
- *promotion* of library resources, programs, and services;
- *advocacy*, *fundraising*, and *recruitment* to gain community support for the library, raise money, and publicize the library's openings for jobs or volunteers;
- *reference* and *social care services* by providing question-answering in social media sites;
- *education* using social sites to support classes, workshops, and informal learning; and,
- *collection-building* and *co-creation* involving users in collaborative creation of collections and resources using social sites.

2.3.1 ASSESSMENT, FEEDBACK, AND MONITORING

Social sites offer new ways for libraries to gain insights from users for assessment efforts. Libraries can use participatory interaction features of social sites to engage users in discussions and invite user comments, suggestions, and requests, obtaining direct feedback about how to improve collections and services. This ability to regularly invite user participation in discussions via social media can help to inform library decision-making and empower users to have a more influential voice about their library.

Libraries can also learn more for assessment purposes by monitoring what users are saying about the library in their posts, tweets, and comments on social sites. These monitoring activities will not only reveal how users and community members perceive the library, but can also increase awareness about users' needs by becoming more aware of the questions that users are asking and the information needs users are expressing in their social postings. Thus, social media use by libraries can not only inform users about the library and its resources, programs, and services, but can also include the use of social media assessment techniques to better inform the library about its users, their

questions and needs, and to provide an assessment of the library's reputation within the larger community. An in-depth look at the types and techniques of social media assessment is covered in [Chapter 3](#).

2.3.2 OUTREACH

Improving outreach and connecting with new audiences has been a major reason for libraries launching social sites. In July 2012, Nielsen (2012) reported that there were 171.8 million U.S. users of social media sites. By 2013, Pew Internet estimated that 73% of all online adults in the U.S. were social media users (Duggan and Smith, 2013), while Nielsen (2014) found that 64% of users visited social media sites at least once each day. In 2012, Pew Internet (2014b) found that 81% of teens were using social media.

Teens and younger adults have been especially difficult for libraries to reach by alternate methods such as e-mail. Young people use social networking sites such as Facebook and do instant messaging or real-time text-messaging via cell phones, but may be less inclined to use or to regularly check e-mail accounts. In a 2004 study by Pew Internet, a teen focus group participant spoke of e-mail as being primarily for use when communicating with "old people" (Lenhart et al., 2005, p. ii). In a survey by Rogers (2010, p. 10), a librarian commented that "More of our students are tweeting and using social media. The younger ones view email as antiquated, so we message them more and more on Facebook." To improve outreach to teens, librarians have used social sites such as teen social networking pages on Facebook and MySpace, successfully increasing online traffic to library teen blogs and webpages (Rogers 2010; Gauder, 2007). Bodnar and Doshi (2011) noted that among student survey respondents, 75% reported they would be willing to "friend" a library's Facebook page.

Increasing visibility and ambient findability on the Internet can be especially challenging for public libraries embedded within a larger city or county website. One librarian described this as, "We're stuck in the site structure of website for the whole city... makes it harder for people to find us. Facebook and Twitter are very useful for that" (Carlsson, 2012, p. 207). By launching social sites and linking to the library's webpage from social site profiles, libraries create new pathways to help online users find the library. Serendipitous discovery of the library through social review sites such as Yelp (Rogers, 2009) has also been a successful way of increasing visibility and driving traffic to library social sites and webpages.

2.3.3 PROMOTION

Promoting library news, events, resources, and services has been a major focus for library social sites. Promotion not only can be directed toward bringing in users, but can also engage the media in publicizing and covering library events.

In a 2009 survey which asked about the most effective social sites for marketing library services, staff ranked social networks such as Facebook the highest for effectiveness, followed by online video as hosted on sites such as YouTube (Rogers, 2009). However, each social site offers unique features which can contribute to promoting the library. Examples include:

- Annotated images shared on sites such as Flickr can promote collections and services, in addition to sharing photos of library events.
- Event invitations promoted on social networks such as Facebook allow users to see when their friends and family are planning to attend library events.
- Crowdsourced social review sites such as Yelp and Foursquare invite users to “check in” and show others when they are at the library, and to share reviews and tips for how best to use the library.
- Real-time updating on microblogging sites such as Twitter can promote library events and also engage followers with status and location updates about services such as the library’s bookmobile.

With social media marketing, libraries must design promotions while keeping it in mind that within social spaces, ultimate control is relinquished to the users. Since users will reshare and even remix library marketing messages and images, the library should consider how best to preserve essential elements of promotions, such as by captioning the library’s name, contact information, and messaging directly onto images that will be reshared by users. As user resharing of promotional items is key, libraries must also engage social site users so that they are interested and incentivized to reshare marketing messages.

2.3.4 ADVOCACY, FUNDRAISING, AND RECRUITMENT

Advocacy, fundraising, and recruitment efforts by libraries are more targeted and focused forms of promotion, intended to motivate and inspire action toward a specific purpose.

Library advocacy efforts often involve “Friends of the Library” and “Save the Library” social media campaigns. In the U.S., many public libraries are funded by local governments and supported by local community taxes. Library advocates have used social media in successful grassroots efforts to motivate the public to vote in favor of library funding or to take action against proposed library closures. Public advocacy campaigns launched via social media have included Save Miami Dade Libraries (<https://www.facebook.com/SaveTheMiamiDadePublicLibraries>) which in 2013 helped to stop a proposed closure of 22 local Miami Dade County branch libraries, and Save Ohio Libraries in 2009 (Solomon, 2011) which generated thousands of phone calls and e-mails to legislators in response to a proposed 50% library budget cut, saving \$147 million in funding for Ohio public libraries.

In fundraising efforts, a library might use social media such as video sharing sites to help motivate financial support for the library. In a 2010 survey (Rogers, 2010), a library staff member commented, “We used an online video via email to tell our ‘story’ to patrons in early 2008 and it ultimately led to a passage of a 1.5 million dollar bond issue for a complete renovation of our library.” Libraries have experimented with social media crowdfunding via Indiegogo (<http://www.indiegogo.com>) (Lewis, 2013), and set up online “wish lists” (Library Journal, 2003) for voluntary purchases by users of needed collection items on sites such as Amazon.com.

Recruitment via social media includes publicizing library job openings as well as seeking volunteers from the community to help out with library projects and programs. Connecting local users with the library through volunteer service opportunities can be a valuable way to build community and social capital, such as through connecting on social media with college-bound youth seeking service opportunities.

2.3.5 REFERENCE AND SOCIAL CARE SERVICES

“Social care” services in which businesses resolve problems and answer customers’ questions via social media have direct equivalents in the library world, such as readers’ advisory and reference question-answering services. Nielsen (2012) found that 47% of social media users surveyed reported having used “social care” customer services. These interactions require the library to monitor not just their own sites but to actively search the social sphere in general for postings, comments, and tweets which mention the library or which indicate a user complaint or question, and then to respond with answers and solutions.

Successful social care interventions can turn a potential black eye for the library into a positive experience. In a survey by Rogers (2009, p. 8) a respondent described

how a library reversed a negative user rating on Yelp by publicly apologizing and providing help and useful information: “That increased traffic to our profile on Yelp but also elicited a reply from that user who upped her rating of the library to the max # of stars, and thanked us for replying.” Taking a social care approach which integrates strengths in reference and readers advisory requires the library to not just view social media as a one-way platform for pushing out promotional material, but as a worthwhile communication channel in which to invest time regularly and actively searching for opportunities to assist users across the social sphere.

In considering new ways for conducting readers advisory interactions using social media, Naik (2012) advocated involving all social participants in the discussion and suggestion of books to read, rather than only deferring to the librarian as the source for suggested readings. Readers’ advisory over social media could potentially involve all social users as co-creators of knowledge and crowdsourced reader-reviewer participants in these learning interactions. Similar conceptions of a more collaborative, interactive, and visible library reference process have also been suggested, as with Lankes (2008) envisioning reference as a participatory conversation involving many questioners and answerers, and Pomerantz and Stutzman (2006) exploring the idea of a “reference blogosphere” which leverages Web 2.0 blogging community features to transform reference services from one-to-one interactions between a questioner and answerer into many-to-many shared interactions among a community of participants.

In September 2007, Bill Pardue of Arlington Heights Memorial Library organized a collective action by librarians to participate as answerers on the 10th of every month in social Q&A sites such as Yahoo!Answers; the event was called “Slam the Boards” (referring to the Q&A sites as “answer boards”) and Pardue estimated that over 100 librarians worldwide joined in to answer questions on that first day (Martin, 2008). Librarians were instructed to answer questions in social Q&A sites identifying themselves as librarians, and to use signature lines that would point back with links to libraries, seeking to promote the idea of libraries as places not only for books, but also for reference services. Library schools joined in as well, using “Slam the Boards” as a training activity in social reference with their students (Roy, 2010). When Pomerantz (2008) examined “Slam the Boards” social Q&A activity by librarians in Yahoo!Answers, he was able to identify 785 answers provided by 74 librarians during 2007–2008, and found that Yahoo!Answers social Q&A users ranked librarian responses as the “best answer” for about 20% of the questions.

Choi et al. (2012) developed a typology of questions asked in online Q&A venues, observing that beyond the traditional information-seeking type of question familiar to reference librarians, in online Q&A settings users also ask questions that

seek advice, opinions, and other “non-information seeking” types of questions. Social affordances such as ratings and ranking mechanisms for answers and the crowdsourced ability to see responses to questions by other participating users have potential for opening up the “black box” of the user perspective on reference assessment to some extent. Where traditional reference services end with the librarian providing an answer and receiving little to no further information on whether the answer was used or considered useful, social reference technologies may offer potential for gaining more information about user responses, bringing new insights into how users perceive, assess, and value reference answers.

2.3.6 EDUCATION

Online learning has seen rapid growth nationwide with not only many fully online learning options offered by universities, colleges, and schools, but also a wide variety of other learning opportunities available online including professional training webinars, massive open online courses (MOOCs), and self-paced online learning via websites and online video among many other options. An OCLC survey of 3,700 online U.S. users of all ages found that 48% had participated in online learning, including 44% of high school students, and 40% of those aged 51 or older—and 21% of those surveyed also reported that they had used a smartphone, tablet, or e-reader to access their online class or tutorial (OCLC, 2014). Increasingly, libraries are supporting and serving online learners. For the academic library assisting distance learners, it is impossible to ask a student to come to the library reference desk for help when the student is located 1,000 miles away. Libraries today are seeking new ways of connecting with online students, including exploring social media as a way to work with online learners.

Many social media sites offer affordances that can support educational uses and online learning communities. “Bibliosocial networking sites” such as Goodreads and LibraryThing (Naik, 2012, p. 320) allow librarians and users participate in online book group discussions, sharing their book reviews and recommendations, and join together as a community of interest around particular topics. Group-based activities are supported within sites such as Facebook for social networking and Diigo in social bookmarking, which can be useful for libraries in conducting discussion groups, classes, workshops, and staff training sessions. Facebook Groups can be used for synchronous group chats as well as asynchronous discussions, and for sharing of images, links, and videos either in an open or closed group. Diigo social bookmarking can be shared with a group to provide a class or workshop with a shared set of useful learning links, or to build a collaborative set of links together with students in a social learning activity.

Twitter is often used for scheduled online chats, in which the chat organizer asks questions and participants tweet responses in a live group discussion. Chats can also be captured for later reference using social publishing sites such as Storify and Paper.li and posted for subsequent review by others who missed the live Twitter chat. A regular chat for librarians on Twitter has used the hashtag #libchat for educational and social evening meetings. Discussions for classes or workshops can also be organized around specific Twitter hashtags that everyone participating tweets with and follows during a specific timeframe. In classes or workshops, another use of Twitter leverages the “backchannel” function by allowing students to tweet their questions if they feel too shy to raise their hand and ask questions in front of a class.

Social sites can also support sharing of learners’ creations, such as in library digital learning labs and workshops, by providing a social space for librarians and participants to share their images, video, writings, and other creations. At the Miami Public Libraries’ YOUmedia digital creation space, library staff, and teens shared over 1,500 photos, 50 videos, and 10 animation videos from learning activities through YOUmedia Facebook and YouTube sites ([Santiago, 2012](#)), and used Flickr for a Black History Photo Contest.

“Gamification” which integrates gaming features such as leveling up in experience and earning rewards in points or badges has long been part of social media sites such as Foursquare and Reddit. Libraries are building upon these ideas in literacy education by offering their own Foursquare badges for library users, or by integrating gamification and earning of points and badges into summer reading programs ([Spina, 2014](#)). At Canton Public Library in 2011, over 1,600 users earned 2,871 digital badges in a summer reading program, while at Ann Arbor Public Library a badgification-enabled summer reading program attracted over 5,000 participants who read more than 5 million pages, contributed over 29,000 reviews of collection items and added almost 300,000 social tags to the library’s online catalog ([Spina, 2014](#); [Landgraf, 2011](#)). These social site features provide a variety of innovative opportunities for libraries to leverage social functionalities in engaging users in educational experiences.

2.3.7 COLLECTIONS AND CO-CREATION

Social sites have supported digital curation and collection-building for images, links, and videos including Pinterest, Flickr, YouTube, Delicious, and Diigo. Many libraries have experimented with sharing digitized collections on social sites. In 2008, a collection of 3,100 images shared by the Library of Congress on Flickr attracted over

3.5 million page views and 1.9 million online visits within the first week (Springer et al., 2008).

At the University of Illinois at Chicago (UIC) Library, an experiment tested whether an image collection posted to Flickr received more traffic than self-hosting the images on an institutional repository. Harris and Hepburn (2013) found that UIC's Flickr-hosted images were viewed an average of 5.29 times per month as compared to 0.74 times per month on average for the institutional repository-hosted images. However, in an experiment at Ohio State University, a collection of historic photos posted on Flickr received little usage until after efforts at publicity were made, prompting the researchers to suggest that even when social media site hosting is used, "If we do not promote our collections to the people who are likely to be interested in them, barring a stroke of luck, it is unlikely that they will be found" (Schlosser and Stamper, 2012, p. 89).

Libraries have also used social sites as platforms for building research tools. For example, at Murray State Libraries, research and instruction librarians used Pinterest to create a digital research library of vetted resources for use by patrons in research which spanned 47 Pinterest pinboards (Richardson et al., 2013). Other libraries have engaged users in crowdsourced co-creation of digital collections, directly involving them in building a social media-based collection (Ekart, 2010), such as by inviting users to contribute photos to a shared Flickr group or Pinterest pinboard, or to help identify historic photos that document community events. At New York Public Library, thousands of volunteers recruited over Facebook and Twitter helped to build a searchable, collaboratively created historic restaurant menus collection by transcribing over 8,500 historic menus (Petit, 2011). Public libraries in many states including Washington, New Mexico, Arizona, and Colorado have involved their Teen Advisory Boards (TABs) in either creating or maintaining the library's social sites (Mon, 2011)—a strategy suggesting a new twist on the old adage—"if *they* build it, they will come."

Libraries and library vendors are also adding social features into catalogs and databases, allowing user-created content to become part of the searching experience. Goodreads book reviews written by users have appeared in the NoveList database (Sullivan 2013). Danbury Public Library in Connecticut was the first to integrate LibraryThing tagging and tag clouds into its online catalog (Abbas, 2010), and since then, hundreds of libraries such as the Bedford Public Library in Texas have added LibraryThing with its "folksonomy," of user-created tags into their catalogs, integrating user-friendly terms such as "chick lit" and "cozy mysteries" (Cosentino, 2008) into the capacity of bibliographic search tools.

In addition to social discovery features such as tagging (also sometimes referred to as social cataloging or social bookmarking) being built into library catalogs, other features being integrated to improve social aspects of the user experience allow users to contribute their own information to library catalog records. Bibliocommons is one example of vendor social discovery extensibility for library catalogs which offers the ability for users to be able to create or add to book lists, as well as to add into catalog records suggested age ranges for children's books, illustrative quotes or content summaries to give other readers more information about a book, suggest ideas for similar titles that other readers might enjoy, and even upload video reviews that other users can view to learn more about the item (Spiteri and Tarulli, 2012). In research on how Bibliocommons social catalog features have been used in the Halifax and Edmonton public libraries in Canada, Spiteri and Tarulli (2012) studied a sample of 50 catalog records and found that the most popular socially enhanced features implemented by library catalog users were abilities to create bibliography lists, add to bibliographies created by others (29%), and add ratings (14.07%), with lesser usage observed for tagging (1.12%) and for the ability to add comments (1.09%).

These new ways of involving users in building the library's collections and tools, and in directly helping to tell the library's story, suggest a transformation of library practices is underway toward a more participatory and user-created library.

CHAPTER 3

Assessing Social Media Sites and Services

Establishing a social media presence extends the library's physical manifestation into virtual space and increases the library's visibility, reach, and impact. However, beyond simply establishing a social presence for the library, the greater challenge is building effective and engaging social media sites that successfully adapt a library's visibility, voice, and presence to the unique contexts, audiences, and cultures within diverse social media sites.

Assessment of social media sites begins by establishing a baseline set of metrics to summarize the library's current social presence and activities, and then provides ways of measuring changes and improvements in the library's activities and engagement within social space. [Chapter 3](#) explores metrics and measures for assessing the impact of the library's presence and activity in social media sites, and the response of the library's users within social spaces.

3.1 PRESENCE

Each social media site typically offers a profile page for self-description via biographical text and images. The library presents its unique self-representation in social space by creating its profile in text and visuals. These choices in shaping a social "self" include the naming of the social site, the metadata or descriptive text used in fields for biography and contact information, and the images selected in representing the library for profile pictures and profile page background visuals.

Goffman (1997b, p. 140) refers to the concept of self presentation in connection with the "information preserve"—that is, strategic choices of the information that is to be revealed or concealed. An assessment of how a library presents its "self" in social media might consider:

- concepts present or absent in the text and images on the library's profile (such as "books," "computers," "people," "knowledge," "learning," "community");

- stylistic choices in text and images in the library's profile such as use of hashtags in the biography text, or selection of logos vs. photos in images; and,
- completeness of the library's profile in the number of fields filled out, and the amount of text or images present or absent.

The library's social site profile makes it "findable" both to the social site's internal search tools (Fichter and Wisniewski, 2008) and to external search engines. Thus, an important part of assessing the library's presence concerns the extent to which a library has optimized its social site profiles by completely filling all available text fields, and providing all possible profile images, such as personal profile photos, background images, and banner images. Research on Twitter indicates that the highly followed Twitter profiles commonly include a picture, a filled-out biography field, and a link to a homepage (Zarrella, 2013). Twitter profiles which lack these basic self-presentation elements may give an impression of an inactive or novice user who has not yet put time or effort into updating their account beyond default settings, which can appear unappealing to potential followers.

Researchers have assessed textual aspects of social profiles in terms of both self-revelation and construction of online identity, while images have been examined for representational choices. Boyle and Johnson (2010) examined MySpace profiles for personal information revealed or concealed in both text and images, such as names, hometowns, occupation and relationship status, and personal interests and hobbies shared on profiles, including favorite books, TV shows, movies, and music. Hum et al. (2011, p. 1832) examined social profile pictures on Facebook for choices about physical activity, "candidness" of photos (natural vs. posed), appropriateness of the images, and inclusion of others in photos, finding that most profile photographs were inactive, posed, appropriate, and contained individual rather than group images. For libraries needing content for social profiles, Koontz and Mon (2014) have suggested that a library's mission statement can be a useful source of text for libraries seeking to fill out biographical fields on social site profiles and "about" pages on blogs.

Impressions can also be created and managed by where one's "social self" has chosen to be present or absent. For example, a particular "self image" or impression can be created and managed by choosing to be present in Tumblr as a microblog and Instagram as an image site, as compared to choosing to be on Twitter as a microblog and Flickr as an image site.

3.2 VISIBILITY

Presence or absence in social sites shapes a library's overall visibility or invisibility within the social sphere. Assessing library visibility within social spaces can include:

- the extent of the library's "footprint" in its presence across a range of social sites; and,
- the "findability" of the library when searched for in social spaces.

The extent of the library's social "footprint" is shaped by its presence in different social sites through staff decisions on which social sites to launch, and which to subsequently maintain or abandon. A typical configuration of the library's social footprint might include a main library Facebook site, and perhaps a main Twitter site and a choice of a site for sharing visuals, such as Youtube for videos, and Flickr or Instagram for images.

A larger library social "footprint" would encompass the launch and maintenance of multiple social presences targeted toward different audiences—for example, operating multiples of Facebook and Twitter sites. This type of configuration might encompass a general library Facebook page with a second Facebook page aimed at teens, and a third Facebook page targeted toward some other specific audience such as researchers, families with younger children, young adults aged 25–35, or Spanish speakers. Libraries with very large social "footprints," may operate multiple clusters of integrated social networking, microblogging, image, curation, and video sharing sites each aimed at different targeted audiences, such as a teen-focused cluster of Facebook, Instagram, Tumblr, and YouTube, and a families with younger children focused cluster of Facebook, Twitter, and Pinterest. Special groups might also be targeted with additional sites, such as a Goodreads or Meetup for book groups.

Control of social site presence is not always entirely within the hands of the library. Sometimes unbeknownst to library staff, members of the public contribute to shaping the library's social footprint by launching and building a social presence for the library in social sites such as Facebook, Foursquare, Yelp, and TripAdvisor. Previously launched "ghost" sites now dormant or dead can also still contribute to the shape of a library's overall footprint in social space.

The library can improve findability both inside and outside of social space with actions such as:

- interlinking the library's social sites to each other;
- strategic metadata choices in site naming and text descriptions; and,

- including full contact information such as the library's address, phone number, homepage, and e-mail.

Researchers have found that not all libraries link together their social media profiles and their library's homepages. De Jager-Loftus and Moore (2013) examined social site availability for 125 Association of Research Libraries (ARL) member libraries, finding that while 31 of the libraries were on Pinterest, only 28 linked the library's homepage from Pinterest, and only 15 linked to Pinterest from their library's homepage. Crawford (2014) in a study of 3,266 U.S. public libraries in 38 states reported locating 40% of the library Facebook pages in his study and 16% of library Twitter pages through external searches rather than via direct links from library homepages, since linking to social profiles from library homepages was not being done consistently by the libraries. Results were similar in a study of 275 nonprofits on Facebook, which found that 19% of the organizations did not link from their Facebook profile to the organization's website (Waters et al., 2009). By omitting links between social sites and webpages, libraries miss an opportunity to further grow their social site audiences, and to benefit from the audiences gained on social media by driving that traffic back to their main homepage.

3.3 VOICE

The library's voice in social media reflects the content, language, and style used in social site postings. Think about analyzing a spoken voice, and you might consider the tone and style of speaking, feelings expressed, brevity, or verbosity, and the content of what was actually said. In examining the voice of the library in social media postings, an assessment can explore the formality or informality of the language, the complexity of the language for readers, and the sentiments expressed—positive, negative, or neutral (Finin et al. 2008), as well as the content of what was posted.

Assessment of the effectiveness and appropriateness of the library's voice in social media depends on a combination of factors:

- social site affordances and culture;
- intended audience; and
- message purpose.

The unique affordances of each social site necessarily influence the crafting the library's social messaging. For example, Twitter messages are a maximum length of 140 characters, and a tweeted message exactly 140 characters in length is called a "twoosh."

However, twooshes are not as easily retweeted or reshared since the longer length may require editing by the retweeter. Assessing the library's voice for verbosity or brevity specific to Twitter could therefore include counting the number and percentage of twooshes, and suggesting reductions in length of tweets if too many twooshes are reducing the "retweetability" of the library's messaging.

The culture of each social site also comes into play in crafting of social messages. On Pinterest, Instagram, and Flickr, images are the major aspect of communication whereas text predominates on Twitter. Hashtags that direct messages toward specific audiences are common in postings on Twitter and Google+, but less often used on Facebook and Pinterest. Culture and customs on a site influence message content and timing as well, such as with Twitter hashtags that are commonly used on particular days of the week—a library might participate in #MusicMonday on Twitter by sharing a tweet linking a music audiofile or video, and on #ThrowbackThursday tweet a historic picture from the library's image collections. Assessing the library's voice may therefore take into account environmental aspects of a social site's affordances (such as ability to add images) and assimilation into the user's culture (in the inclusion or exclusion of hashtags, emoticons, emojis, or other elements) that might suggest potential modifications to a library's voice and posting style. Research has suggested that inclusion of some social site cultural elements increases re-sharing; for example, multiple researchers have found that including a hashtag in a Twitter message increases the likelihood that the posting will be retweeted by others (Naveed et al, 2011; Suh et al., 2010).

The library's intended audience and the purpose of the library's message also should strongly influence how social messages are constructed. If the library's text-based message is aimed toward teens, youth, or a low literacy adult audiences such as English as a second language (ESL) speakers, assessing style of voice can include analyzing whether the reading level is appropriate for the intended audience. One example of a basic metrics tool for analysis of text readability and grade level in assessing the readability of a message is Flesch-Kincaid scores for grade level and readability, which can be calculated within Microsoft Word. Flesch-Kincaid grade level scores give an estimate based on the U.S. school grade level that would be required of the reader in order to be best able to comprehend the text, while the Flesch-Kincaid Reading Ease (Readability) scores are calculated on a scale of 0–100 with optimal scores for readability considered to be in the 60–70 range (7th to 8th grade level); higher scores indicate that the text is easier for readers (Gray, 2012). If a library is seeking with a particular message to reach a lower literacy audience, assessment might also take into consideration whether images might be more effective than text-only messages. Simplicity of

language may also make social messages more appealing for viral resharing. Zarrella (2013) used Flesch-Kincaid scores in analyzing Facebook postings, and found that posts scoring as more complex to read were re-shared less often by Facebook users as compared to posts which scored as easier to read, such as at a 5th grade level.

Assessing a library's social media posting content could also seek to determine the topics which appear most frequently in the library's social messages, and how well these match the interests of the users of a particular social site. Although an in-depth qualitative analysis can be time-intensive, a quick assessment of word frequencies might utilize automated word cloud tools such as Wordle (<http://www.wordle.net/>) or Tagxedo (<http://www.tagxedo.com/>) to visualize frequency patterns in word usage, revealing the most commonly used words and topics in a library's social postings. Here analysis might suggest ways in which the library's postings might be improved to better reach targeted user communities. The library might take into consideration the key interests of a specific social site's users as part of crafting more effective social messaging.

3.4 INTERACTION

Interaction represents the social side of the social media environment. Assessing interaction explores the extent to which the library engages the social aspects of social media at three general levels of interaction:

- Interaction with individuals;
- Interaction with groups; and,
- Interaction with the social site community.

Libraries can be assessed on a continuum from more interactive to less interactive in both the levels of interaction used, and the types of approaches employed. Less interactive approaches will tend to use social sites as if they are traditional web-pages—a one-way method of pushing the library's content out to passive receivers. More interactive, reciprocal, and participatory approaches will use a social site's features to engage and interact in a variety of ways including by “friending” or “following” other social site users, “liking” or “up-voting” others' content, commenting on, responding to, and re-sharing others' postings, and participating in group or community activities.

Environmental factors such as embedding of apps into a social site can further extend interactivity by creating more ways for social site users to interact. Depending on environmental factors in the affordances and culture of a social site, the library may be able to engage in a variety of participatory social opportunities such as poll voting, group chats, shared collection-building, and memes. The library might ask or respond

to user questions, or ask for an informal vote to learn about users' opinions on Facebook, participate in a live Twitter chat, contribute to a group collection of images on Flickr, or join in sharing images, videos and postings themed around a current popular Internet hashtag, current fad, or viral game. For example, in 2009, millions of Facebook users participated in a viral game of posting "25 Random Things About Me" using the Facebook Notes feature, followed by tagging other users to participate (Quenqua, 2009). In 2014, the ALS Association's "Ice Bucket Challenge" raised awareness and over \$15 million to combat Amyotrophic Lateral Sclerosis (ALS), also known as Lou Gehrig's Disease (Koltnow, 2014), through viral videos and social postings in which participants filmed themselves pouring buckets of ice water over their heads, and then challenged others to participate and donate. Twitter users regularly post hashtags which link together all tweets sharing that hashtag into a collective stream of ideas and discussion.

At lower levels of interactivity, the library might focus only on posting its own content. For example, Crawford (2014) in a study of 3,266 U.S. public libraries with social sites observed that some of the libraries were not responding to comments or questions from their users on Facebook or Twitter. At higher levels of interactivity, the library would become more involved in interactions with other social site users through friending, following, liking, re-sharing, replying to users' comments or questions, and participating in shared social posting activities with individual users, groups of users, and the larger social site community.

Traditional social interaction assessment tends to focus on statistics of user activity, as enumerated through counting users' "likes" of the library's social site and postings, tracking users' "resharings" of the library's content, and counting comments by users in response to the library's postings. Rarely are a library's reciprocal social activities tracked or analyzed. However, research is suggesting that there are correlations between the library's social reciprocity—liking, friending, following, and re-sharing others—and measures of the library's influence in social media. Kwak et al. (2010) observed low reciprocity for following activity on Twitter, in that most users do not follow back the users who are following them. This tendency can be a problem for libraries that choose not to follow back other users, since researchers have also found that doing more reciprocal following back of others on Twitter actually increases the likelihood for a Twitter user of being retweeted by others (Naveed et al., 2011; Suh et al., 2010). Analyzing a library's social reciprocity may reveal key areas where the library can improve in its interactions with social site users and, by doing so, attract more reciprocal responses, including retweeting and re-sharing of the library's content.

3.5 REACH

The reach of the library's social activities encompasses tracking of the size and scope of the library's social media audience, and of the extent to which the library's "voice" via its social postings was heard by both intended and unintended audiences. Assessing the library's reach in social space includes:

- penetration into the library's service area;
- following in general and among key influencers; and,
- amplification of the library's "voice" by followers.

A key aspect of exploring the extent to which a library's social postings have reached the intended audience is comparing the library's following in social media with the members of the library's service area. If the service area is bounded by geography—for example, the residents of a city or county—the library could calculate the percentage of social site "friends" and "followers" living within that city or county, and then examine how many local residents actually follow the library's social sites. For assessing penetration into a library's geographic service area, the library might compare the number of local residents who are social "friends" and "followers" with the expected population of the library's service area. In a 2011 study of public libraries, Crawford (2014) examined the extent to which U.S. public library Facebook friends actually were located within the library's geographic service area, finding only two libraries that had attracted 50% of their community as Facebook followers, both small libraries in areas serving fewer than 300 people, while the highest rate of local Facebook followers achieved by a library with a service area of 500,000 or more was 2.6% of the local community; among libraries serving 25,000 to 499,999 users the highest rate of local area Facebook followers achieved by a library was just over 7% of the community. Crawford (2014, p. 18) recommended a framework for assessing social following in the local community that defines "very broad reach" as consisting of 10% of a library's service area; "broad reach" as encompassing from 5% to 9.99% of the service area, "fairly broad reach" as 2.5% to 4.99% of the service area, "modest reach" as 1% to 2.49% of the service area, and "limited reach," as less than 1% of the library's service area.

For academic or special libraries, the service area may be bounded less by geography than by affiliations such as students, faculty, and staff, or other special membership groups. In a study at Texas A&M University's library, Sewell (2013) analyzed and grouped 432 Twitter followers to discover what proportion represented the library's primary target audiences of Texas A&M students (23.61%) and faculty and staff (5.32%), as compared to other non-primary audiences such as corporations (19.68%),

alumni (11.57%), libraries or librarians (7.64%), and other unknown users (8.80%), finding that the majority of the Twitter followers (54.63%) were in fact not affiliated with Texas A&M University.

In assessing the library's followers, another key issue for the consideration of reach is the extent to which the library's social friends and followers include major influencers such as public officials, journalists, celebrities, funders, or other important even if possibly non-affiliated audiences for the library's messages. While attracting followers from among direct library affiliates such as students, faculty, or public library users may be the most desirable top priority for a library's social media effort, journalists who follow the library's social sites can potentially convey the library's message beyond social media to other channels for reaching the library's desired users in large numbers via additional channels such as news media, radio, and television.

This amplification of the library's "voice" to reach wider audiences is an important strategic consideration. Among the library social site "friends" and "followers" may be some highly connected re-sharers who retweet, repost, remix, and republish the library's content, amplifying the library's voice to reach even larger audiences who may then virally re-share this content in turn. Assessment of the library's social friends and followers should therefore include awareness of the important role that key re-sharers can play in furthering the library's mission and objectives, even if those particular followers are not directly affiliated with the institution or living within the library's geographic service area.

Key re-sharers and highly active social site participants can be found across the different social sites. Springer et al. (2008) during the Library of Congress Flickr project discovered in looking at over 67,000 tags added by users that 40% of the social tagging was added by just 10 "power taggers" (p. 19), and a single user alone was responsible for adding over 5,000 tags. Cultivating these power users and key re-sharers requires 1) becoming aware of their existence among the library's followers and noting their activity patterns, and 2) maximizing opportunities for the library's social messages to be brought to their attention to facilitate re-sharing, which amplifies the library's "voice" to reach a wider audience of users.

Cultivating re-sharing particularly involves issues of calibrating a library's timing of social postings to maximize attention and opportunities for content to be seen by social audiences, including reaching the audience of key re-sharers when they are actively seeking new content to re-post. Researchers have noted that re-sharing tends to occur quickly, such as when messages are near the top of a user's Twitter stream (Lehmann et al., 2012; Ye and Wu, 2010). Zarrella (2013) analyzed millions of retweets on Twitter and a dataset of all the content from 10,000 of the most-liked

Facebook pages, and found in general a high level of retweeting from 3–5pm EST, with peak re-sharing activity for Twitter occurring on Fridays, while for Facebook postings a high rate of re-sharing occurred from 4–6pm EST. Zarrella (2013) also found that “likes” of postings on Facebook most commonly occurred from 5pm to midnight EST, with more “likes” of Facebook content occurring on Saturdays and Sundays than during the working week. These optimal re-sharing and “liking” time-frames are not necessarily at the times when libraries have tended to be involved in engaging in their posting activities. Libraries should examine their own patterns of being retweeted, re-shared, “liked” and re-pinned on social sites to discover optimal posting times for their own unique audiences of social users.

Optimizing posting frequency to attract and retain social audiences is another consideration in assessing a library’s social postings. Zarrella (2013) found that Twitter accounts attracting the highest number of followers tweeted around 22 times per day, but on Facebook the posting frequency for accounts that attracted the most fans was much lower—just once every other day, or about 4–5 times weekly. Among libraries, researchers have found a low average frequency of social posting activity overall, though some individual libraries were more active in posting to social sites. Aharony (2010) assessed tweets from 15 public and 15 academic libraries in 2009 and found that the average rate of posting to Twitter was 1.55 tweets daily for the public libraries and 1.34 tweets per day for the academic libraries. Crawford (2014) in analyzing social posting activity for 5,958 public libraries during 2011 observed that although 53.9% of these libraries had a Facebook presence, only 48.1% actually had posted to their site within the previous 3 months. “Very frequent” posting activity among libraries as characterized by Crawford (2014, p. 19) was at least 5 updates per week, but only one-fifth of the Facebook libraries (20.9%) and one-third of the Twitter libraries (32.3%) reached that frequency level of posting; an exception in Crawford’s study was one library which tweeted on average as much as 11 times daily. These results suggest that many libraries could benefit by experimenting with increasing their posting levels on Facebook and especially on Twitter; and retweeting or re-sharing others’ postings could represent a strategic way of improving a library’s posting frequencies.

3.6 IMPACT

The most critical assessment for libraries is to determine the impact of social media efforts toward advancing the library’s mission, goals, and objectives. This assessment not only directs overall efforts, but periodically revisits whether current social media efforts should be continued, redirected, or terminated. Questions to ask include:

- What are the desired outcomes for social media use?
- To what extent have desired outcomes been achieved?

Each library has its own unique desired outcomes, but some common examples include: increasing users and use of the library, improving literacy and learning in the community, gaining knowledge of user perspectives and improving user satisfaction, obtaining advocacy support for the library, and increasing library resources and funding. To assess the impact of social media on achieving desired goals requires finding ways to measure social media contributions toward outcomes such as:

- driving online traffic to library webpages and databases;
- motivating increased user attendance at library events, programs, and workshops;
- increasing use of library resources, facilities, and services;
- soliciting contributions of funds and volunteer effort; and
- obtaining testimonial letters and messages of support to legislators.

Libraries can use a variety of methods to track online traffic from social media sites, such as 1) using server logging and Web analytics software that detects social media traffic, 2) directing social media message traffic toward specific “landing pages” in the library’s website or blog, and to specific pages for generating advocacy letters to legislators, signing up for library cards and time on computer stations, donating funds or resources to the library, or signing up for volunteering, and, 3) creating automatically tracked URLs for social postings such as “bit.ly” or “tinyurl” links.

In-person attendance at library workshops, events, and use of in-library services might be tracked by asking attendees to: 1) fill out evaluation forms that include a question of “how did you hear about this?” with checkboxes for social media sites; 2) present a coupon code or printable ticket which would have different numbering in social media messages; 3) use a specific pass phrase (e.g., “Tell them Lisa sent you!”) in social media messages that would signal staff to count that person as a referral from social media—just a few examples of how a library might consider designing specific ways of tracking statistics on the impacts of social media promotions.

Although social media sites do not have a direct financial cost, there is a non-trivial cost for the staff time required to set up and maintain social media sites, to create and post regular social media text and image updates, and to monitor and respond to social site user comments and questions. By setting up ways to track how

social sites are contributing toward achieving library goals and objectives, it becomes possible to make decisions about which social sites are more valuable to the library than others, and to periodically reassess whether current efforts in maintaining specific social sites are worth continuing, or whether new social sites should be added to the mix.

3.7 REPUTATION

How users perceive the library and describe the library within social space contributes toward the library's online reputation. Fichter and Wisniewski (2008) recommend assessing how users perceive the library by monitoring mentions of the library in social media; they categorize the more polarized user mentions either as "stars" (positive) or "scars" (negative).

Social media users often express both opinions and sentiments in the text of social messages, such as in their tweets on Twitter, or in postings on Facebook and blogs. Researchers typically classify these sentiments as positive, negative, or neutral (Finin et al. 2008). Emoticons and emojis within social messages (such as "smiley faces" and "frowning faces") can contribute toward expressing a user's positive, negative, or neutral sentiment (Ortigosa et al., 2014), and a library might examine all of the comments as well as the indications of sentiment expressed about the library in social postings via text or images in order to better understand how users feel about and talk about the library and its programs, services, facilities, and resources.

Although there can be useful insights from social postings about users' perceptions of the library and from social users' positive or negative ratings, rankings, and comments, a study by Moe et al. (2011) on ratings of products by 2,436 individuals makes the cautionary point that those doing most of the social postings may represent a vocal minority rather than the opinions of the silent majority of users. Solomon (2013) points out that acknowledging and responding to posts whether positive or negative benefits a library's online reputation by demonstrating that the library "is listening, and cares."

Review of best practices in the area of crisis communication can benefit social libraries in building awareness of key aspects in crisis communication. Coombs (2007, p. 165) in research on crisis communication theory examined the different strategies that organizations use in responding to a crisis involving reputational threat, while pointing to the first priority in any crisis as "to protect stakeholders from harm, not to protect the reputation." Veil et al. (2011, p. 111) reviewed and summarized the crisis communication literature with ten key guidelines for handling a crisis in social media,

including: “establish risk and crisis management policies and process approaches; partner with the public; listen to the public’s concerns and understand the audience; accept uncertainty and ambiguity; communicate with honesty, candor, and openness; meet the needs of the media and remain accessible; collaborate and coordinate with credible sources; communicate with compassion, concern, and empathy”; and, “provide messages of self-efficacy” in terms of ways the public can help by volunteering, donating, and taking actions to reduce personal risk. Overall, a key strategy in reputational management for the social library is to undertake periodic assessments that monitor how users perceive the library, and to create policies for handling problematic situations in social media that can provide guidance before a crisis actually occurs.

3.8 DATA ANALYSIS IN ASSESSMENT

Four major data analysis techniques are commonly used in conducting assessments of social media efforts:

- surveys, interviews, and focus groups;
- text mining and content analysis;
- social network analysis; and
- analytics tools.

Surveys, interviews, and focus groups are essential for understanding social media user perspectives and gaining insights into user satisfaction and users’ needs. For example, the library may ask questions directly on Facebook, or embed or link to a web-based survey on social sites. Interviews can be conducted in person, by phone or e-mail, or by using social site features such as text chatting, video chatting, or direct messaging. It can be possible to interview users within their own social environment; for example, Marwick and boyd (2011) conducted user interviews via Twitter direct messaging.

Text mining and content analysis examines the activity of social media users through the traces left behind in user postings, comments, and server logs. The posts and tweets as a dataset may be downloaded from a profile or from a stream of postings via a social site’s application program interface (API). The library can use quantitative approaches to analyzing this data with automated text mining and content analysis software, or employ human researchers to use qualitative methods in examining, coding, and analyzing user data. This type of research is often used for assessing social site profiles, postings, comments, and tweets, including sentiment analysis of posted content.

Social network analysis explores the connections between users, and between users and the library. These social network connections link together users who follow each other, and those who re-share or retweet each other. Data for analyzing these social relationships can be extracted from analyzing posts and tweets that are downloaded as a dataset from a social profile, or from a stream of social postings via an API, and connections may be visualized by using graphic representations of the interlinks between users. A social network analysis can help a library in particular to understand who the “key re-sharers” are among its followers and how they are connected in re-sharing activities, as well as noting less-connected or missing community members for potential future outreach activities. An example of an open source social network analysis tool developed by the information science community is NodeXL ([Shneiderman, 2011](#)), which can provide network graphs for visualization of the connections and interactions among a library’s social site followers.

Analytics tools for social media assessments may either be built into a social site, such as Facebook’s Insights analytics tool, or available from vendors as a purchased product with some limited free options or as a “free trial” or “limited time trial.” Examples of vendor analytics tools with limited free options include Topsy Analytics, TweetReach, PeerIndex, and SocialBro. These types of tools may offer a variety of different analysis options such as “best times to post” based on when followers are available online, and other information about users, their followers, and their activities in re-sharing information in social space. Aspects that are explored in research using analytics tools include: *total reach*, indicating all who saw any activity from the library’s social site, *paid reach* from advertisements, *organic reach*, representing those who saw the library’s social postings from unpaid activity, and *viral reach*, representing downstream users who saw the library’s postings through a friend’s re-sharing or liking the content ([Vucovich, et al., 2013](#)). Analytics tools may also be helpful in providing geographic information for users that can be valuable in assessing the extent to which the library is reaching members of the local community.

Among libraries, social media assessment is still in developmental stages. While businesses are able to use costly and powerful analytics software to assess their social media efforts, cash-strapped libraries instead must seek out any free analytics tools available, such as those in beta or offering free trials. Future directions in social media assessment that would strengthen engagement by libraries in social media include:

1. making available open-source tools for social media analytics to support library assessment needs;

2. building a directory of libraries on social media to allow libraries better opportunities to find each other on social media and to learn more from each other about best practices and ways to successfully assess social media activities; and,
3. educating librarians and library staff in social media management and assessment skills as part of the general education in librarianship, or through continuing professional education opportunities, to help provide the skilled workforce that is needed by libraries seeking to enter into the social sphere.

Evolving Directions in Social Libraries

Looking down the road, libraries face an uncertain future driven by technological and demographic changes, in which the forms and functions of the library are under constant pressure to adapt to new roles and new realities. This chapter discusses evolving directions for libraries and social media, including potential implications of these new and emerging technologies for libraries in social spaces.

4.1 THE CHANGING ROLES OF LIBRARIES

Libraries have served a variety of roles and functions within society, from the early days of the library as a repository and archive where people came to use collections that were often separated from users in closed stacks, to new roles in education as the “people’s university” with open stacks and a revitalized educational mission integrating classes and workshops. The role of library as a “civic and community center” expanded the life of the library to offering spaces for community meetings and events, and to supporting civic activities. As U.S. federal and state government closed local offices and reduced workloads, such as state offices for family and children’s services closing local community offices and post offices no longer providing tax forms, U.S. public libraries have essentially been “drafted” (Bertot et al. 2006) to pick up the slack in providing tax forms, and helping users to access government information and services, as well as providing sources for help, support, information, culture, and recreation not only within the library but beyond in the larger community.

Technology-driven changes have further expanded the role of the library beyond a “civic and community center” to a “technology center.” In some communities, libraries offer the only access available to wifi for local users (Bertot et al. 2006). Libraries became the place in the local community where people without computers or Internet could go for free access to fill out online job applications and web-based applications for government services and programs. In academic libraries, new models of the “information commons” emerged (Malefant, 2006), in which the campus library merged with the campus computing center.

Among new roles that are arising to shape activities for the future of libraries within the social sphere are:

- the virtual branch library;
- the social library;
- the mobile library;
- the makerspace library; and
- the ubiquitous library.

4.1.1 THE VIRTUAL BRANCH

The role of the “virtual branch library” reflects the integration of the Internet into the library’s core functions and services, with resources and services shifting to on-line modes such as e-books, library websites, online article databases, and librarians answering digital reference questions via e-mail or live chat, and even establishing presence in social media and virtual worlds. No longer does using a library require physically visiting the local library in person. Today, many people are using their library through its “virtual branch” online services and resources as often, or sometimes even more often, than they are visiting the brick and mortar manifestation of the library in person. The library’s website has been transforming from a shadow or reflection of the “real” library into a full-fledged “virtual branch library” which often serves as the primary destination for users.

Further integration and intersection between the virtual branch and the social library has been especially on the rise as more and more libraries start using blogs as their websites. Still being explored for the future are the ways in which a library’s social media sites can best work together with the library’s website, to fully integrate the social library into the virtual branch.

4.1.2 THE SOCIAL LIBRARY

With the advent of social media, the library expanded into social spaces. At first, early adopter libraries established pioneering social sites; more recently, other libraries have followed, to the point where offering social media sites is now mainstream and not necessarily seen as especially new or innovative anymore. Features originating from social media such as social tagging and tag clouds as navigational tools, and crowdsourced ratings, rankings, reading lists, and book reviews have been adapted and integrated into many library catalogs and library vendor databases, while social media

concepts and technologies such as gamification and digital badges are being built into such traditional library programs and services as summer reading programs (Landgraf, 2011; Spina, 2014).

Spiteri and Tarulli (2011, p. 2) speculated about a library catalog as a social space where users can “share and discuss common reading, listening, and viewing interests” in an open and participatory readers’ advisory discussion, and connect not only to resources but also to people, such as library staff and other library users. The social library as a bridge connecting library staff with library users, and library users with each other, has also been extended to the idea of real people as resources to be checked out with the “Living Library” project, in which local residents become the “books” who can be “checked out” of a library for 30-minute conversations (Iwasaki, 2008). Among the many different people serving as “Living Library” resources were a raw food expert, a quadriplegic, a former homeless person, and a Marine/FBI agent.

For library managers, questions are moving beyond how to initiate and launch social media to the more challenging problem of how to do social media well—how to better integrate social media into the life of the library, how to more fully engage the library’s staff and users in social media; how to make the library’s social media more effective in outreach and delivery of services, and how to measure the library’s presence and activities within social media in ways that truly matter. The next wave of trends in social media use are also always looming on the horizon—what will be the next big social site where users will be going next within the social media landscape, and should the library follow?

4.1.3 THE MOBILE LIBRARY

Mobile technologies are increasingly ubiquitous in our lives. In 2012, 95.1 million U.S. users surfed the mobile Web, and over 101.8 million U.S. users accessed mobile apps (Nielsen 2012). Popular social sites based around mobile apps include Instagram and Foursquare, and users also access social sites such as Facebook and Twitter with mobile apps from smartphones or other mobile devices, such as tablets. In a study of over 10,000 Facebook postings, one-third of the Facebook postings had been made using a mobile device (Zarrella, 2013). In 2014, an estimated 132 million monthly unique users accessed Facebook via computers, while 109 million monthly unique mobile users accessed Facebook using smartphone apps (Nielsen, 2014). On Twitter, the smartphone app user audience rivaled the computer user audience in size, with 32 million unique users monthly accessing Twitter via computers and Internet browsers as compared to 31 million accessing Twitter via smartphone mobile apps (Nielsen, 2014).

In 2012, when the Pew Internet Center conducted a nationwide survey of 2,252 Americans on the types of library services they would use if available (Zickuhr et al., 2013), among the desired services that users identified were:

- mobile apps for accessing library materials and services (63% were either “very likely” or “somewhat likely” to use); and,
- GPS navigation apps for wayfinding and locating library materials (62% were either “very likely” or “somewhat likely” to use).

Nielsen (2014) researchers estimated that smartphone users spend 86% of their time using mobile apps as opposed to using mobile-enabled websites, and early adopter libraries have already been moving to address this new audience of mobile users by creating mobile apps for library catalogs and websites. Since the first launch of a public library mobile app by the District of Columbia Public Library in 2009, many libraries have created mobile apps using Boopsie (<http://www.boopsie.com>), Bibliocommons (<http://www.bibliocommons.com/products/mobile>), or Bookmyne (<http://www.sirsidynix.com/products/bookmyne>) to offer mobile-friendly access to library catalogs and websites. With texting on the rise as a major communication method for mobile phone users, libraries have also added SMS text messaging in “text a librarian” reference question-answering services (Hill et al., 2007). Connecting the mobile library and the social library, librarians also are integrating mobile-friendly social media sites such as Instagram and Twitter.

Outreach to the mobile and smartphone audience will be critical for libraries as these users particularly are represented among the next generation of younger adults, teens and youth. A 2013 Pew Internet study found that 78% of teens are cell phone users and nearly half (47%) use smart phones (Madden et al., 2013), while 74% of adults ages 18–49 access the Internet on a cell phone, tablet, or other mobile device. Outreach to mobile phone users also may help to build outreach efforts to more diverse user groups. Research indicates that 72% of Hispanics own smartphones and are adopting mobile technologies at one of the highest rates of any U.S. demographic group (Madden et al., 2013). Black Americans also are highly active users of mobile phones (Lenhart et al., 2010). As users become accustomed to accessing information and services from their phones on the go, libraries will need to be ready to meet them at the point of need with access on the move to their mobile social library.

4.1.4 THE MAKING LIBRARY

Making of art and crafts has long been part of the activities for children and teens at public libraries, but a new culture of the library as “makerspace” has been growing, built

in part upon the foundation of longstanding traditions of libraries providing items for local needs such as “tool libraries” and other resources for “making” and “doing,” from tools and fishing poles to baking tins and “seed libraries” collecting and sharing local seeds for planting crops. Today’s “making” movement transforms libraries into “makerspaces” and “fab labs” that stock tools and technologies for use in “making” (Gutsche, 2013; Newcombe and Belbin, 2012) such as 3D printers, lathes, drills, saws, and robotic, electronic and computing components such as Arduino and Raspberry Pi kits.

The makerspace movement marks the next phase in an already emerging new role for libraries as community creation spaces where users can learn about, teach about, and engage in creating, crafting, and building. Part of this direction in refocusing libraries on “making” has been reflected in efforts to rethink and restructure libraries for better support of both digital and physical creation activities. In 2001, an analysis of university library reference questions using the Big 6 model found that questions focused primarily on finding information, but were almost entirely lacking in the area of organizing and synthesizing information (e.g., creating new information products such as papers, presentations, and illustrations) which highlighted a lack of opportunities for digital creation activity, since library workstations did not provide access to software with creation capabilities such as word processing, spreadsheets, or graphics (Cottrell and Eisenberg, 2001). A change in the paradigm from libraries as places for housing and finding information to libraries as places for supporting information creation has emerged. Examples of this direction include the launch of “information commons” spaces in academic libraries which merge student computer centers directly into library spaces (Malefant, 2006), as well as installations of “digital creation spaces” designated as places for digital media activities in libraries, where young people learn to use software for creating digital images, video, and audio in YOUMedia libraries in Miami, Chicago, and other communities (Santiago, 2012).

Digital creation spaces and makerspaces in libraries also often have a social side involving dedicated social media sites that the libraries use to connect with and communicate with their “digital creation” and “making” user communities. This raises new challenges in understanding how libraries can best use social media to grow and maintain these special “digital creation” and “making” user interest groups within the larger library community, and to build educational functions supporting their activities into library social media sites. As library learners become involved in creation and social sharing of a variety of digital and physical projects such as 3D printed designs, educational aspects such as copyright, fair use, remixing, and privacy issues come into play as part of the learning needs for library social spaces.

4.1.5 THE UBIQUITOUS LIBRARY

Digital technologies increasingly are part of daily life for people of all ages. Nielsen (2014) found that the average American household owns four digital devices, with HDTVs in 83% of American households, 80% having computers with Internet access, 65% including smartphones, 49% owning digital video recorders (DVRs), and 46% using gaming consoles. Not only are we surrounded by mobile phones and mobile devices from cell phones to smart phones and tablets, but a new wave of mobile technologies is bringing advances in wearable computing. Users are wearing smart watches, fitness tracker wristbands, and even smart shoes and smart clothing which can collect, communicate, and share data. Some libraries are even beginning to make available mobile and wearable devices to users such as Google Glass and Oculus Rift digital glasses and visors (Asgarian, 2014). These trends will continue and accelerate, as mobile, wearable, and smart devices in our lives multiply and proliferate, creating data and information to be shared over social media. This next phase of connected digital technologies emerging from ubiquitous computing and the “Internet of Things” may also signal new emerging roles for libraries.

Ubiquitous computing encompasses a variety of “smart” devices that gather and provide data about users that not only include wearable devices (e.g., smart watches and bracelets such as FitBit which monitor and provide data about a user’s health and activity levels) but also “smart” appliances such as a smart refrigerator that may be anticipated to track user food purchases and spoilage dates, suggest recipes, and notify users when grocery supplies are running low (the Internet of Things). These smart devices will collect massive amounts of data that can benefit users with more information for managing their lives, but may also require significant investment of time, effort and expertise in downloading and interpreting data to better understand implications for improving health, nutrition, and performance in a variety of areas from sports to learning. As big data becomes part of the accessible tool set for users, they are individually and collectively engaging in data capturing and social sharing that compares and contrasts their data with others in trying to better understand the “big picture” created by large streams of data from activities such as health monitoring with fitness trackers and “life-logging” via data capturing software and apps.

Bell (2013) anticipates that academic librarians will increasingly be called upon to help faculty “acquire, store, retrieve, analyze, and preserve” big data archives. The Library of Congress already has taken on a role in managing the large-scale data archive of Twitter tweets and is working on the problem of how to make the data available to researchers (Library of Congress, 2013). Social media platforms contain massive amounts of data about users in text and photos, and researchers have pointed to the

concerns for potential abuse of this data as computational social science advances (Oboler et al., 2012).

One of the areas of developing potential for libraries is in creating value from shared big data, which OCLC (2011, p. 31) refers to as “big collaboration.” For example, in the socially enabled app Waze, drivers share their individual updates on road conditions to create a live map encompassing everything from accidents to road construction, traffic slowdowns, and police presence. Over a long term of collecting this socially shared mapping data, a research archive could be produced which could be used to study these traffic patterns over time and create new value, such as new ways of accessing and visualizing past data and comparing it to the present day; potentially also, the risks are that such an archive could be mined for tracking patterns of individual users, or of particular groups of users such as police officers.

Recent employment ads for jobs such as “emerging technologies librarian” and “data librarian” are harbingers for the kinds of skills that will help librarians to manage the “big data” emerging from social media and ubiquitous computing. The ubiquitous library which tracks users’ preferences, senses their needs, and suggests information and resources has long been discussed in the library literature (Coffman, 1999) and within the social sphere, and has already emerged to some extent in socially enabled sites such as Goodreads, Amazon, and Google Books, but the role that libraries and librarian will play in the emerging area of social big data is still being determined.

4.2 EVOLVING DIRECTIONS

One of the fundamental issues that will need to be addressed for the future of social media in libraries concerns policy development—most critically, policies addressing such issues as user privacy for social media in libraries. There has been little attention given as yet in the professional literature to either privacy concerns for users of library social media sites (Zimmer, 2013) or to social media ethics issues in general for librarians (Wasike, 2013). Social media policy writing also has not as yet been studied to any great extent in the library and information science literature.

Traditionally, libraries have taken a leadership role in protecting user privacy, with strong policies on preserving the “freedom to read” that seek to avoid revealing anything about users’ reading choices. However, by doing this, libraries take the choices about privacy out of the hands of users and impose their own decision-making on privacy. Social media by its nature reverses the dynamic of imposed privacy by placing decision-making back into the hands of users. In biblio-social sites such as GoodReads and socially enabled shopping sites such as Amazon.com, users are choosing to pub-

licly share and discuss their reading choices, posting their ratings and reviews of books online for anyone to see. Social media has thus led some observers to question whether users may have their own wishes about the extent to which they want to have their privacy protected by libraries versus being in control of their own privacy decisions (Mon and Harris, 2011).

Research by Stutzman and Hartzog (2009) found that users take control of their own privacy within social media sites in a variety of ways—including creating multiple accounts on social sites such as Facebook and Twitter for different purposes, using privacy controls within a site to restrict access for unwanted viewers, and using entirely different social sites for different audiences. Agosto and Abbas (2011) similarly found during focus group interviews with 45 high school seniors that some of the students described using pseudonyms to set up their Facebook accounts as a privacy protection measure. Lamb (2011) noted that 56% of teens surveyed in a 2007 study reported that they had posted fake information in social site profiles. However, some of these privacy strategies, such as using fake names or creating multiple accounts, bring users into conflict with the “real name policies” of social sites such as Google+ and Facebook that require users to sign up for single accounts only, and to use their real, legal names. These policies have led to some user backlash such as the “Nym Wars” on Google+ (Kiss, 2011) when users fought to keep pseudonymous account names. In an informal survey of 119 users whose accounts were suspended for violating the Google+ “real name” policy, 74% said their pseudonym was actually the name that most people knew them by (Bayley, 2011); these pseudonymous account names included pen names or professional names used by writers and artists, nicknames, and online identity names of long standing.

In another view of social site policy issues and how users push back against social site restrictions, a survey of over 1,000 parents found that despite Facebook’s rules limiting accounts to users age 13 and older, 36% of parents knew that their children had joined Facebook before age of 13, and 68% of those parents had in fact helped their underage children launch Facebook accounts (boyd et al., 2011). For libraries, this raises social media policy-writing and policy-making issues for youth services in social media. There is a complex web of issues around youth in social media including privacy and Internet safety, educational needs, and laws such as the Children’s Online Privacy Protection Act (COPPA, 15 USC 6501) and the Children’s Internet Protection Act (CIPA, 47 USC 254) that have impacts on limiting or restricting young users’ access to social media. Bodnar and Doshi (2011) asked the question of whether a college or university actively searching for and following students on social media brings up any ethical concerns. Yet for many libraries, connecting with younger generations of users

is one of the main reasons for being on social media, and restrictions on connecting would run counter to the whole point for libraries in engaging in social spaces.

Spiteri and Tarulli (2012, p. 119) raised the question of how libraries can protect users while at the same time inviting publicly shared user contributions; in giving the hypothetical example of creating a shared list of books about sexuality that teens are reading and inviting teens to contribute to the list over social media; they asked: “how do we do this and have our young patrons stay anonymous?” This example highlights the need for libraries to develop comprehensive policies for social media use that not only guide the library’s social posting practices to prevent problems for the library, but that also consider other aspects that could come into play for both the library and its users through a variety of activities including social collaboration and creation efforts.

The role to be played in education by the social library has yet to be fully determined, but librarians have pointed to needs for user education in aspects of what could be called “social safety”—from issues of privacy protection and safe computing practices while using social sites, to self-protection against technology threats and against social threats that occur on social media sites such as cyberbullying or social engineering by hackers. Problems can occur through a variety of insufficient security practices such as:

- sharing of passwords and logins with others;
- logging into social sites on public workstations such as school or library computers and then failing to log out;
- posting reminders of social site logins and passwords in places that others can easily find; and,
- using commonplace or easily guessed passwords.

Agosto and Abbas (2011, p. 61) have cautioned that teens “are often confused by social network privacy setting options and often unaware of the security risks of posting personal information online.” Agosto and Abbas (2011) noted that social site users, including younger users, may not be fully aware of issues such as risks of third party ownership rights to their personal information and photos when posted on social sites, lack of control over re-sharing of images and information by one’s friends and followers, ability of posted photos and information to be subpoenaed by law enforcement, and risks of cyberbullying that can result from sharing personal information and photos in social sites and apps. Photos and information posted on social sites may also be found by employers, or by journalists, resulting in repercussions. One of the photo sharing practices enabled by social sites and apps is sexting, the digital sharing of nude

or sexually explicit photos. In a national study conducted via telephone of 1,560 U.S. Internet users aged 10–17 on the prevalence of sexting, 7.1% reported receiving nude or nearly nude images of others, and 2.5% reported appearing in or creating sexting images or videos (Mitchell et al., 2012). Lamb (2011, p. 89) reported that in a 2009 study, 19% of teens reported that they had been “harassed or cyberbullied,” while 18% experienced “humiliating” pictures of them being shared online by others.

In addition to specific education needs of users for the area of “social safety,” a broader area of educational responsibility for social libraries has been referred to as “social literacy” (Mon and Phillips, 2015) which encompasses teaching users about literacy in the educational aspects of using social media sites so as to more efficiently and effectively to support their information seeking and learning needs. For example, Redden (2010) refers to “tag literacy” in teaching students how to more effectively use tagging in a socially enabled library catalog. Features of social sites that have proven effective in engaging users, such as collection building and co-creation to social information sharing, tagging, tips, check-ins, and badgification could potentially also be used by libraries to engage users in both formal learning and informal lifelong learning activities. Social spaces also bring up a variety of new areas of learning needs beyond the basics of how to navigate and use different social sites effectively—for example, teaching job seekers how to design a more effective LinkedIn profile, or how to use professional and career social searching on LinkedIn to develop job leads. Beyond usage and safety basics of how to manage privacy settings and maintain safety and security in social sites, “social literacy” could also include issues for social information sharing and information creation such as how to understand copyright and fair use issues, and the “remixing” and “copyleft” cultures in online social site creation activities among many other new “social literacies.”

Overall, although social media is transitioning from early adoption phases into broader mainstream use among libraries, the ways in which we understand social media and how it can best be used for library information sharing, service provision, advocacy, assessment, collection creation community building, and education still remain at early pioneering stages. Ongoing basic research and exploratory efforts by the libraries will continue to be needed as the library integrates into the mainstream of daily life within social spaces.

Bibliography

- Abbas, J. (2010). Social knowledge—organizing behaviors and socially constructed knowledge: research and discussion. Ch. 6, in *Structures for Organizing Knowledge: Exploring Taxonomies, Ontologies, and other Schema*. Neal Schuman, New York, 175–204. Ch 1. [2](#), [8](#), [12](#), [18](#), [31](#)
- Abram, S. (2006). 43 things I (or you) might want to do this year. *Information Outlook* 1(2), 38–39. Ch 1. [21](#)
- Agosto, D. E. and Abbas, J. (2011). Teens, social networking, and safety and privacy issues. In *Teens, Libraries, and Social Networking: What Librarians Need to Know*, Ch 6. ABC-CLIO, 59-75. Ch 4. [56](#), [57](#)
- Aharony, N. (2010). Twitter use in libraries: an exploratory analysis, *Journal of Web Librarianship* 4 (4): 333–350. Ch 3. DOI: [10.1080/19322909.2010.487766](https://doi.org/10.1080/19322909.2010.487766). [42](#)
- Anttiroiko, A.-V. and Savolainen, R. (2011). Towards Library 2.0: The adoption of Web 2.0 technologies in public libraries. *Libri* 61(2): 87–99. Ch 1. DOI: [10.1515/libr.2011.008](https://doi.org/10.1515/libr.2011.008). [2](#)
- Asgarian, R. (2014). Arapahoe library invests in Google Glass. *Library Journal* 139 (1), 16–18. Ch 4. [54](#)
- Bayley, A. S. (2011). Preliminary results of my survey of suspended Google+ accounts. *Infotropism*. July 25, 2011, <http://infotrope.net/2011/07/25/preliminary-results-of-my-survey-of-suspended-google-accounts/> Ch 4. [56](#)
- Bell, S. (2013). Promise and problems of big data. *Library Journal*. (March 13, 2013): http://lj.libraryjournal.com/2013/03/opinion/steven-bell/promise-and-problems-of-big-data-from-the-bell-tower/#_ Ch 4. [54](#)
- Bertot, J. C., Jaeger, P. T., Langa, L. A., and McClure, C. R. (2006). Drafted: I want you to deliver e-government. *Library Journal*. August 15, 2006, http://lj.libraryjournal.com/2006/08/academic-libraries/drafted-i-want-you-to-deliver-e-government/#_ Ch 4. [49](#)
- Bertot, J.C., McClure, C.R., and Jaeger, P. T. (2008). The impacts of free public Internet access on public library patrons and communities. *Library Quarterly*, 78(3), 285–301. Ch 4. DOI: [10.1086/588445](https://doi.org/10.1086/588445).

- Blowers, H. and Reed, L. (2007). The c's of our sea change: plans for training staff, from core competencies to learning 2.0. *Computers in Libraries* 27(2), 10–15. Ch 1. 21
- Bodnar, J. and Doshi, A. (2011). Asking the right questions: A critique of Facebook, social media, and libraries, *Public Services Quarterly* 7:(3-4): 102-110, DOI: 10.1080/15228959.2011.623594 Ch. 2, Ch 4. 25, 57
- Borgendale, M. and Weise, F. O. (1986). EARS: Electronic access to reference service. *Bulletin of the Medical Library Association* 74 (4): 300-304. Ch 2. 19
- boyd, d. m. and Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), <http://jcmc.indiana.edu.proxy.lib.fsu.edu/vol13/issue1/boyd.ellison.html>. Ch. 2. DOI: 10.1111/j.1083-6101.2007.00393.x.
- boyd, d. (2009). Some thoughts on Twitter vs. Facebook status updates. *Apophenia*, http://www.zephoria.org/thoughts/archives/2009/10/25/some_thoughts_o-3.html. Ch 1. 9
- boyd, d. (2011). White flight in networked publics? How race and class shaped American teen engagement with MySpace and Facebook. In L.Nakamura and P. A. Chow-White (Eds.), *Race After the Internet*. Routledge, pp. 203-222. <http://www.danah.org/papers/2009/WhiteFlightDraft3.pdf>. Ch. 2. 56
- boyd, d., Hargittai, E., Schultz, J., and Palfrey, J. (2011). Why parents help their children lie to Facebook: Unintended consequences of the Children's Online Privacy Protection Act. *First Monday* 16(11). <http://journals.uic.edu/ojs/index.php/fm/article/view/3850/3075> Ch 4. DOI: 10.5210/fm.v16i11.3850.
- Boyle, K. and Johnson, T.J. (2010). MySpace is your space? Examining self-presentation of MySpace users. *Computers in Human Behavior*, 26, 1392–1399. Ch 3. DOI: 10.1016/j.chb.2010.04.015. 34
- Carlsson, H. (2012). Working with Facebook in public libraries: A backstage glimpse into the library 2.0 rhetoric. *Libri* 62 (3), 199–210, doi: 10.1515/libri-2012-0016. Ch 2. DOI: 10.1515/libri-2012-0016. 23, 25
- Casey, M. E. and Savastinuk, L. C. (2006). Library 2.0: service for the next-generation library. *Library Journal*, September 1, 2006, <http://lj.libraryjournal.com/2010/05/technology/library-2-0/>. Ch . 18

- Charnigo L. and Barnett-Ellis, P. (2007). Checking out Facebook.com: the impact of a digital trend on academic libraries. *Information Technology and Libraries* 26(1): 23–34. Ch. 2. [20](#), [21](#)
- Choi, E., Kitzie, V., and Shah, C. (2012). Developing a typology of online Q&A models and recommending the right model for each question type. *Proceedings of the American Society for Information Science and Technology*, 49: 1–4. DOI: [10.1002/meet.14504901302](#). Ch 2. [28](#)
- Coffman, S. (1999). Building Earth's largest library: Driving into the future. *Searcher* 7(3): http://www.fileformat.info/other/library/coffman_mar99.pdf. Ch 4. [55](#)
- Coffman, S. and Arret, L. (2004a). To chat or not to chat -taking another look at virtual reference, part 1. *Searcher* 12 (7). http://www.infotoday.com/searcher/jul04/arret_coffman.shtml. Ch 2. [19](#)
- Coffman, S. and Arret, L., (2004b). To chat or not to chat -taking yet another look at virtual reference, part 2. *Searcher* 12 (8): http://www.infotoday.com/searcher/sep04/arret_coffman.shtml. Ch 2. [19](#)
- Coombs, W. T. (2007). Protecting organization reputations during a crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review* 10(3), 163–176. DOI: [10.1057/palgrave.crr.1550049](#) Ch 3. [44](#)
- Cosentino, S.L.(2008). Folksonomies: Path to a better way? *Public Libraries*, March/April 2008: 42–47. Ch 2. [31](#)
- Cottrell, J. R. and Eisenberg, M. B. (2001). Applying an information problem-solving model to academic reference work: Findings and implications. *College & Research Libraries*, 62 (4), 334–347. Ch 2. DOI: [10.5860/crl.62.4.334](#). [53](#)
- Crawford, W. (2006). Library 2.0 and “Library 2.0.” *Cites & Insights* 6(2): 1–32. Ch 1. [18](#)
- Crawford, W. (2014). *Successful Social Networking in Public Libraries*. Chicago: ALA Editions. Ch 2, Ch 3. [36](#), [39](#), [40](#), [42](#)
- Davies, J. (2012). Facework on Facebook as a new literacy practice. *Computers & Education*, 59 (1), 19–29. Ch 1. DOI: [10.1016/j.compedu.2011.11.007](#). [1](#)
- De Jager-Loftus, D. P. and Moore, A. (2013). #gathercreateshare: How research libraries use Pinterest. *Internet Reference Services Quarterly* 18 :3–4, 265–279, DOI: [10.1080/10875301.2013.840714](#). Ch 3. [36](#)

- Del Bosque, D., Leif, S. A., and Skarl, S. (2012). Libraries atwitter: trends in academic library tweeting. *Reference Services Review* 40 (2): 199-213. DOI: 10.1108/00907321211228246. Ch 2. 22
- Duggan, M. and Brenner, J. (2013). The demographics of social media users - 2012. Pew Research Center's Internet & American Life Project. February 14, 2013, http://www.pewinternet.org/files/old-media//Files/Reports/2013/PIP_SocialMediaUsers.pdf. Ch 1. 15, 16
- Duggan, M. and Smith, A. (2013). Social media update 2013. Pew Internet & American Life Project, Pew Research Center. <http://pewinternet.org/Reports/2013/Social-Media-Update.aspx>. Ch 2. 16, 25
- Ekart, D. F. (2010). Flickr four by four. *Computers in Libraries* 30(5), 46-47. Ch 2. 31
- Ellison, N. B. and boyd, d. (2013). Sociality through social network sites. In Dutton, W. H. (Ed.), *The Oxford Handbook of Internet Studies*. Oxford: Oxford University Press, 151-172. Ch 1. 2
- Ellison, N. B. Steinfield, C., and Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication* 12 (4): 1143-1168. DOI: 10.1111/j.1083-6101.2007.00367.x. Ch 1. 16
- Farkas, M. (2007). *Social Software in Libraries: Building Collaboration, Communication, and Community Online*. Medford, NJ: Information Today. Ch 1. 2
- Fichter, D. and Wisniewski, J. (2008). Social media metrics: Making the case for making the effort. *Online*, 32(6), 54-57. Ch 3. 34
- Finin, T., Joshi, A., Kolari, P., Java, A., Kale, A., and Karandikar, A. (2008). The information ecology of social media and online communities. *AI Magazine* 29 (3), 77-92. Ch 3. 36, 44
- Forsyth, E. and Perry, L. (2010). Picturing your community: Flickr use in public libraries. *Library Hi Tech News* 1: 6-9, DOI: 10.1108/07419051011034121. Ch. 2.
- Gannes, L. (2010). The short and illustrious history of Twitter #hashtags, Gigaom. April 30, 2010, <https://gigaom.com/2010/04/30/the-short-and-illustrious-history-of-twitter-hashtags/>. Ch 1. 7
- Gauder, B. (2007). Social networking encourages teen library usage at Denver public. *NextSpace*, 7, 12-13. Ch 2. 25

- Gazan R. (2007). Seekers, sloths and social reference: Homework questions submitted to a question answering community. *New Review of Hypermedia and Multimedia* 13(2): 239–248. Ch 1. DOI: [10.1080/13614560701711917](https://doi.org/10.1080/13614560701711917). 3, 12
- Goffman, E. (1997a). Strategic interaction. In C. Lemert, and A. Branaman (Eds), *The Goffman Reader*, Malden, MA: Blackwell Publishing, pp. 140–146. Ch 3. 10
- Goffman, E. (1997b). Status, territory, and the self. In C. Lemert and A. Branaman (Eds.), *The Goffman Reader*. Oxford, UK: Blackwell Publishing, pp. 45–54. Ch 1, Ch 3. 33
- Graham, J.M., Faix, F., and Hartman, L. (2009). Crashing the Facebook party: One library's experiences in the students' domain. *Library Review* 58 (3): 228–236. Ch. 2. 20
- Gray, C. J. (2012). Readability: A factor in student research? *The Reference Librarian* 53(2), 194–205, DOI: [10.1080/02763877.2011.615217](https://doi.org/10.1080/02763877.2011.615217). Ch 3. 37
- Gutsche, B. (2013). Makerspaces in libraries: Patron's delight, staff's dread? *Alki*, 29(1), 28–30. Ch 4. 53
- Hampton, K.N., Goulet, L. S., Marlow, C., and Rainie, L. (2012). Why most Facebook users get more than they give: The effect of Facebook 'power users' on everybody else. Pew Research Center's Internet & American Life Project, February 3, 2012, http://www.pewinternet.org/files/old-media/Files/Reports/2012/PIP_Facebook%20users_2.3.12.pdf. Ch 1. 16
- Harris, V. and Hepburn, P. (2013). Trends in image use by historians and the implications for librarians and archivists. *College & Research Libraries* 74 (3): 272–287. Ch 2. DOI: [10.5860/crl-345](https://doi.org/10.5860/crl-345). 31
- Herring, S. C. and Kurtz, A. J. (2006). Visualizing dynamic topic analysis. Proceedings of CHI '06. ACM Press: New York, <http://ella.slis.indiana.edu/~herring/chi06.pdf>. Ch 1. 17
- Hill, J. B., Hill, C. M., and Sherman, D. (2007). Text messaging in an academic library: integrating SMS into digital reference. *Reference Librarian*, 47 (1), 17–29. Ch 4. DOI: [10.1300/J120v47n97_04](https://doi.org/10.1300/J120v47n97_04). 52
- Honey, C. and Herring, S.C. (2009). Beyond microblogging: Conversation and collaboration via Twitter, *42nd Hawaii International Conference on System Sciences*, 2009. HICSS '09. Jan. 5–8, 2009, 1–10. Ch 1. 16

- Horn, L. (2013). Beyond the teen space: Reaching teens through social media. In C. Harmon and M. Messina (Eds.). *Using Social Media in Libraries: Best Practices*. Plymouth, UK: Scarecrow Press. Ch 1. 17
- Huberman, B. A., Romero, D. M., and Wu, F. (2009). Social networks that matter: Twitter under the microscope. *First Monday*, 14(1), January 5, 2009, <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/rt/printer-Friendly/2317/2063>. Ch 1. 16
- Hum, N. J., Chamberlin, P. E., Hambright, B. L., Portwood, A. C., Schat, A. C., and Bevan, J. L. (2011). A picture is worth a thousand words: A content analysis of Facebook profile photographs. *Computers in Human Behavior* 27(5): 1828–1833. Ch 3. DOI: 10.1016/j.chb.2011.04.003. 34
- Iwasaki, J. (2008). At this library, you can check out a person instead. *Seattle Post-Intelligencer* (October 23, 2008). <http://www.seattlepi.com/local/article/At-this-library-you-can-check-out-a-person-1289236.php>. Ch 4. 51
- Kiss, J. (2011). Google+ pseudonym wars escalate—is it the new being ‘banned from the ranch’? *The Guardian*, August 4, 2011, <http://www.theguardian.com/technology/pda/2011/aug/04/google-plus-pseudonym-wars> Ch 4. 56
- Koltnow, B. (2014). What’s impact of ‘Ice Bucket Challenge’ on ALS? WFMZ (August 19, 2014), <http://www.wfmz.com/news/whats-impact-of-ice-bucket-challenge-on-als/27619180>. Ch 3. 39
- Koontz, C. and Mon, L. (2014). *Marketing and Social Media: A Guide for Libraries, Archives, and Museums*. Lanham, MD: Rowman & Littlefield Publishers. Ch 3. 34
- Kwak, H., Lee, C., Park, H., and Moon, S. (2010). What is Twitter, a social network or a news media? *Proceedings of the 19th International Conference on World Wide Web*, Raleigh, NC, USA, 591-600. DOI:10.1145/1772690.1772751. Ch 3. 39
- Lamb, A. (2011). Social networking: teen rights, responsibilities, and legal issues. In *Teens, Libraries, and Social Networking: What Librarians Need to Know*, D. E. Agosto and J. Abbas (Eds.), Ch 7, Santa Barbara: Libraries Unlimited, 77–95. Ch 4. 56, 58
- Landgraf, G. (2011). Summer reading levels up: How two library summer reading programs evolved into summer games. *American Libraries*, November 3, 2011

- <http://www.americanlibrariesmagazine.org/article/summer-reading-levels>. Ch 2, Ch 4. 30, 51
- Lankes, R. D. (2008). Virtual reference to participatory librarianship: expanding the conversation. *Bulletin of the American Society for Information Science and Technology* 34 (2), 11–14. Ch 2. DOI: 10.1002/bult.2008.1720340205. 28
- Lehmann, J. Goncalves, B., Ramasco, J. J., and Cattuto, C. (2012). Dynamical classes of collective attention in Twitter. *Proceedings of the 21st International World Wide Web Conference (WWW)*, 2012, ACM, 251–260. Ch 3. 41
- Lenhart, A., Madden, M., and Hitlin, P. (2005). Teens and technology: youth are leading the transition to a fully wired and mobile nation. Pew Internet & American Life Project. <http://www.pewinternet.org/Reports/2005/Teens-and-Technology.aspx>. Ch 2. 25
- Lenhart, A., Purcell, K., Smith, A., and Zickuhr, K. (2010). Social media and mobile Internet use among teens and young adults. Pew Internet and American Life Project (February 3, 2010) http://web.pewinternet.org/~media/Files/Reports/2010/PIP_Social_Media_and_Young_Adults_Report_Final_with_toplevels.pdf. Ch 1, Ch 4. 15, 52
- Lewis, C. (2013). Crowdfunding the library. *Library Journal*. April 17, 2013. <http://lj.libraryjournal.com/2013/04/funding/crowdfunding-the-library/#> Ch. 2. 27
- Library Journal. (2003). Oakland library posting wish lists for books. *Library Journal*. May 6, 2003, <http://lj.libraryjournal.com/2003/05/ljarchives/oakland-library-posting-wish-lists-for-books/>. Ch. 2. 27
- Library of Congress. (2013). Update on the Twitter Archive At the Library of Congress. (January 2013) http://www.loc.gov/today/pr/2013/files/twitter_report_2013jan.pdf. Ch 4. 55
- Lietzau, Z. (2009). U.S. public libraries and the use of web technologies (*Closer Look Report*). Denver, CO: Colorado State Library, Library Research Service. http://www.lrs.org/documents/closer_look/WebTech_2008_Closer_Look.pdf. Ch 2. 21, 22
- Lietzau, Z and Helgren, J. (2011). U.S. public libraries and the use of web technologies, 2010. (*Closer Look Report*). Denver, CO: Colorado State Library, Library Research Service. <https://elearning.webjunction.org/content/dam/Web->

- Junction/Documents/webjunction/WebTech2010_CloserLookReport_FinalRev.pdf. Ch 2. 21,22
- Lipow, A. G. (1999). 'In your face' reference service. *Library Journal* 124(13): 50-52. Ch 1. 18
- Mack, D., Behler, A., Roberts, B., and Rimland, E. (2007). Reaching students with Facebook: Data and best practices. *Electronic Journal of Academic and Special Librarianship* 8 (2): http://southernlibrarianship.icaap.org/content/v08n02/mack_d01.html. 20
- Madden, M., Lenhart, A., Duggan, M., Cortesi, S., and Gasser, U. (2013). Teens and technology. Pew Research Center's Internet & American Life Project, March 13, 2013. <http://www.pewinternet.org/Reports/2013/Teens-and-Tech.aspx>. Ch 1, Ch 4. 16, 52
- Mahmood, K. and Richardson Jr., J. V. (2011). Adoption of Web 2.0 in U.S. academic libraries: A survey of ARL library websites, *Program: Electronic Library and Information Systems* 45(4), 365-375. DOI:10.1108/00330331111182085. Ch. 2. 21
- Malefant, C. (2006). The information commons as a collaborative workspace. *Reference Services Review*, 34(2), 279-286. Ch 4. DOI: 10.1108/00907320610669506. 49, 53
- Maness, J. M. (2006). Library 2.0 theory: Web 2.0 and its implications for libraries, *Webology* 3(2), June 2006, <http://www.webology.org/2006/v3n2/a25.html>. Ch 1. 18
- Marwick, A. E. and boyd, d. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society* 13: 114-133. Ch 3. 45
- Martin, M. (2008). The man behind the slam. *Reference & User Services Quarterly* 47 (3), 216-217. DOI:10.5860/rusq.47n3.216. Ch 2. 28
- Mitchell, K. J., Finkelhor, D., Jones, L. M., and Wolak, J. (2012). Prevalence and characteristics of youth sexting: A national study. *Pediatrics* 129 (1), 13-20. DOI: 10.1542/peds.2011-1730. Ch 4. 58
- Moe, W.W., Schweidel, D.A., and Trusov, M. (2011). What influences customers' online comments. *MIT Sloan Management Review* 53 (1): 14-16. Ch 3. 44

- Mon, L. (2011). Public library 2.0: New technologies, roles, and challenges for public libraries. In J. Bertot and P. Jaeger (Eds.), *Public Libraries and the Internet: Roles, Perspectives, and Implications*. Libraries Unlimited. Ch1, Ch 2. 21, 31
- Mon, L and Harris, L. E. (2011). The death of the anonymous librarian. *The Reference Librarian* 52(4): 352-364. Ch 4. DOI: [10.1080/02763877.2011.585279](https://doi.org/10.1080/02763877.2011.585279). 56
- Mon, L. and Phillips, A. (2015). The social library in the virtual Branch: Serving adults and teens in social spaces. In A. Woodsworth and W. D. Penniman, *Advances in Librarianship* 39, Emerald Group Publishing Limited. Ch 1, Ch 4. 2, 3, 58
- Mon, L. and Randeree, E. (2009). On the boundaries of reference services: Questioning and Library 2.0. *Journal of Education for Library and Information Science* 50(3): 164-175. Ch 2. 21
- Naik, Y. (2012). Finding good reads on Goodreads. *Reference and User Services Quarterly* 51(4), 319-323. DOI:[10.5860/rusq.51n4.319](https://doi.org/10.5860/rusq.51n4.319). Ch. 2. 2, 28, 29
- Naveed, N., Gottron, T., Kunegis, J., and Alhadi, A. C. (2011). Bad news travel fast: a content-based analysis of interestingness on Twitter. *WebSci '11: Proceedings of the 3rd International Conference on WebScience, 2011*, ACM, 8. Ch 3. 37, 39
- Newcombe, P. and Belbin, N. (2012). Fab labs at the library: Community 'makerspaces' give access to cutting-edge tools. *Government Technology*, <http://www.gov-tech.com/e-government/Fab-Labs--at-the-Library.html> Ch 4. 53
- Nicholas, D. and Rowlands, I. (2011). Social media use in the research workflow. *Information Services & Use* 31 (1/2): 61-83. Ch 1. 17
- Nielsen (2012). State of the media: The social media report 2012. December 4, 2012, <http://www.nielsen.com/us/en/reports/2012/state-of-the-media-the-social-media-report-2012.html>. Ch 2, Ch 4. 15, 16, 25, 27, 51
- Nielsen (2014). The digital consumer: February 2014. <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2014%20Reports/the-digital-consumer-report-feb-2014.pdf>. Ch 1, Ch 2, Ch 4. 15, 16, 25, 51, 54
- Oboler, A., Welsh, K., and Cruz, L. (2012). The danger of big data: Social media as computational social science. *First Monday* 17(7). <http://firstmonday.org/ojs/index.php/fm/article/view/3993/3269>. Ch 4. 55
- OCLC (2011). Libraries at webscale. <http://www.oclc.org/content/dam/oclc/reports/worldshare-management-services/libraries-at-webscale.pdf>. Ch 4. 55

- OCLC (2014). At a tipping point: Education, learning and libraries. <http://www.oclc.org/content/dam/oclc/reports/tipping-point/215133-tipping-point.pdf>. Ch 2. 29
- O'Reilly, T. (2005). What is Web 2.0: design patterns and business models for the next generation of software, <http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>. Ch 1. 1
- Ortigosa, A., Martín, J. M., and Carro, R. M. (2014). Sentiment analysis in Facebook and its application to e-learning. *Computers in Human Behavior* 31: 527–541. Ch 3. DOI: 10.1016/j.chb.2013.05.024. 44
- Petit, J. (2011). Twitter and Facebook for user collection requests. *Collection Management* 36:253–258, DOI: 10.1080/01462679.2011.605830. Ch. 2. 31
- Pew Research Center (2014a). Social networking fact sheet, January 2014. <http://www.pewinternet.org/fact-sheets/social-networking-fact-sheet/>. Ch 1. 15
- Pew Research Center (2014b). Teens fact sheet. <http://www.pewinternet.org/fact-sheets/teens-fact-sheet/>. Ch 1, Ch 2. 15, 16, 25
- Planet Money (2015). Episode 600: The people inside your machine. *Planet Money: the Economy Explained* (January 30, 2015). <http://www.npr.org/blogs/money/2015/01/30/382657657/episode-600-the-people-inside-your-machine>. Ch 1. 13
- Pomerantz, J. (2008). The librarian invasion: Evaluating the Slam the Boards effort. *Proceedings of the American Society for Information Science and Technology*, 45(1). http://www.ils.unc.edu/~jpom/conf/ASIST2008_ERef_Panel.pdf. Ch 2. 28
- Pomerantz, J. and Stutzman, F. (2006). Collaborative reference work in the blogosphere. *Reference Services Review*, 34 (2), 200–212. Ch 2. 28
- Quan-Haase, A. and Young, A. L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society*, 30(5) 350–361. Ch 1. 16
- Quenqua, D. (2009). Ah, yes, more about me? Here are '25 random things.' *New York Times*, February 5, 2009, E6. <http://www.nytimes.com/2009/02/05/fashion/05things.html>. Ch 3. 39
- Redden, C. S. (2010). Social bookmarking in academic libraries: Trends and applications. *The Journal of Academic Librarianship* 36 (3): 219–227. Ch 4. 58

- Richardson, R., Vance, C., Price, E., and Henry, J. (2013). A mightier pin: Creating a credible reference library on Pinterest at Murray State University. *Internet Reference Services Quarterly* 18:3-4, 247–264, DOI: [10.1080/10875301.2013.849319](https://doi.org/10.1080/10875301.2013.849319). Ch. 2. 31
- Rogers, C. R. (2009). Social media, libraries, and Web 2.0: How American libraries are using new tools for public relations and to attract new users. *German Library Association Annual Conference: Deutscher Bibliothekartag in Erfurt*, June 2–5, 2009. Ch. 2. 25, 26, 27
- Rogers, C. R. (2010). Social media, libraries, and Web 2.0: How American libraries are using new tools for public relations and to attract new users. *Third Survey*, November 2010. South Carolina State Library. http://www.statelibrary.sc.gov/docs/pr/201012_pr_social_media_survey.pdf. Ch. 2. 25, 27
- Roy, L. (2010). Engaging LIS students in reference work through online answer boards. *The Reference Librarian*, 51(2), 97–107. DOI: [10.1080/02763870903579455](https://doi.org/10.1080/02763870903579455). 28
- Ryan, S. (1996). Reference service for the Internet community: A case study of the Internet Public Library Reference Division,” *Library and Information Science Research* 18 (3): 241–259. Ch. 2.
- Santiago, R. (2012). YOUmedia Miami engaging youth in powerful new ways. *National Civic Review*, Winter 2012 DOI: 10.1002/ncr Ch. 2, Ch 4. 30, 53
- Schlosser, M. and Stamper, B. (2012). Learning to share: Measuring use of a digitized collection on Flickr and in the IR. *Information Technology & Libraries* 31 (3), 85–93. Ch 2. 31
- Sewell, R. R. (2013). Who is following us? data mining a library’s Twitter followers. *Library Hi Tech* 31(1), 160–170. DOI: [10.1108/07378831311303994](https://doi.org/10.1108/07378831311303994). Ch 3. 40
- Shah, C., Kitzie, V., and Choi, E. (2014). Modalities, motivations, and materials—investigating traditional and social online Q&A services. *Journal of Information Science* 40(5) 669–687. Ch 1. DOI: [10.1177/0165551514534140](https://doi.org/10.1177/0165551514534140). 3
- Shah, C., Oh, J.S., and Oh S. (2008). Exploring characteristics and effects of user participation in online social Q&A sites. *First Monday* 13 (9). <http://www.firstmonday.dk/ojs/index.php/fm/article/view/2182/2028>. Ch 1.3

- Shneiderman, B. (2011). Social discovery in an information abundant world: Designing to create capacity and seek solutions. *Information Services & Use* 31: 3–13. Ch 3. 46
- Smeaton, K. and Davis, K. (2014). Social technologies in public libraries: exploring best practice. *Library Management*, 35(3), 224–238. Ch 1, Ch 2. DOI: 10.1108/LM-09-2013-0087. 6, 23
- Smith, A. (2014). African Americans and technology use: A demographic portrait. January 6, 2014, <http://www.pewinternet.org/2014/01/06/african-americans-and-technology-use/>. Ch 1. 16
- Smith, C. (2013). Tumblr offers advertisers a major advantage: Young users, who spend tons of time on the site. *Business Insider*, December 13, 2013. <http://www.businessinsider.com/tumblr-and-social-media-demographics-2013-12>. Ch 1. 15
- Solomon, L. (2011). *Doing Social Media So It Matters: A Librarian's Guide*. Chicago, IL: American Library Association. Ch 2. 27
- Solomon, L. (2013). *The Librarian's Nitty-Gritty Guide to Social Media*. Chicago, IL: American Library Association. Ch 1. 6, 44
- Solomon, L. (2013). Understanding social capital. *American Libraries*, (July 9, 2013). <http://americanlibrariesmagazine.org/2013/07/09/understanding-social-capital/>. Ch 3.
- Spina, C. (2014). Gamification in libraries. In B. A. Kirsch (Ed.), *Games in Libraries: Essays on Using Play to Connect and Instruct*. Jefferson, NC: McFarland & Company, Inc., pp. 62–79, Ch. 2, Ch 4. 30
- Spiteri, L. F. and Tarulli, L. (2012). Library catalogues of the future: A social space and collaborative tool? *Library Trends* 61(1): 107–131. Ch 4. 4, 57
- Spiteri, L. and Tarulli, L. (2011). The public library catalogue as a social space: A case study of social discovery systems in two Canadian public libraries. <http://www.oclc.org/content/dam/research/grants/reports/2010/spiteri2010.pdf>. Ch 4. 51
- Spiteri, L. F. (2006). The use of folksonomies in public library catalogues, *The Serials Librarian: From the Printed Page to the Digital Age* 51(2), 75–89. DOI: 10.1300/J123v51n02_06. 3
- Spiteri, L. and Tarulli, L. (2011). The public library catalogue as a social space: A case study of social discovery systems in two Canadian public libraries. <http://>

- www.oclc.org/content/dam/research/grants/reports/2010/spiteri2010.pdf. Ch 4.
- Spiteri, L. F. and Tarulli, L. (2012). Social discovery systems in public libraries: if we build them, will they come? *Library Trends* 61 (1), 132-147. DOI: [10.1353/lib.2012.0019](https://doi.org/10.1353/lib.2012.0019). Ch 1 Ch 2. 32
- Springer, M., Dulabahn, B., Michel, P., Natanson, B., Reser, D., Woodward, D., and Zinkham, H. (2008). For the common good: The Library of Congress Flickr pilot project. October 30, 2008, http://www.loc.gov/rr/print/flickr_report_final.pdf Ch. 2, Ch 3. 31, 41
- Stuart, D. (2010). What are libraries doing on Twitter? *Online* 34 (1): 45-47. Ch. 2. 22
- Stutzman, F. D. and Hartzog W. N. (2009). Boundary regulation in social media. http://fredstutzman.com/papers/AOIR2009_Stutzman.pdf. Ch 4. 56
- Stutzman, F., Vitak, J., Ellison, N. B, Gray, R., and Lampe, C. (2012). Privacy in interaction: exploring disclosure and social capital in Facebook. Association for the Advancement of Artificial Intelligence: http://fredstutzman.com/papers/ICWSM2012_Stutzman.pdf. Ch 4.
- Suh, B., Hong, L., Pirolli, P., and Chi, E.H.(2010). Want to be retweeted? Large scale analytics on factors impacting retweet in Twitter network. *2010 IEEE Second International Conference on Social Computing (SocialCom)*, Aug. 20-22, 2010, 177-184. Ch 3. 37, 39
- Sullivan, D. (2013). Tech services on the web: Goodreads <http://www.goodreads.com/>, *Technical Services Quarterly* 30(1): 117-118. DOI: [10.1080/07317131.2013.735977](https://doi.org/10.1080/07317131.2013.735977). Ch 2. 31
- Veil, S. R., Buehner, T., and Palenchar, M. J. (2011). A work-in-process literature review: Incorporating social media in risk and crisis communication. *Journal of Contingencies and Crisis Management*, 19 (2):110-122. DOI: [10.1111/j.1468-5973.2011.00639.x](https://doi.org/10.1111/j.1468-5973.2011.00639.x). Ch 3. 45
- Vucovich, L. A., Gordon, V. S., Mitchell, N., and Ennis, L. A. (2013). Is the time and effort worth it? One library's evaluation of using social networking tools for outreach. *Medical Reference Services Quarterly* 32 (1): 12-25. DOI: [10.1080/02763869.2013.749107](https://doi.org/10.1080/02763869.2013.749107). Ch 3. 46
- Wanucha, M. and Hofschire, L. (2013). U.S. public libraries and the use of web technologies, 2012 (*Closer Look Report*). Denver, CO: Colorado State Library,

- Library Research Service. http://www.lrs.org/wp-content/uploads/2013/11/WebTech2012_CloserLook.pdf Ch. 2. 22
- Ware, S. A., Howe, P. S., and Scalese, R. G. (2000). Interactive reference at a distance: A corporate model for academic libraries. *The Reference Librarian*, 69/70: 171–179. Ch 2. 19
- Wasike, J. (2013). Social media ethical issues: role of a librarian. *Library Hi Tech News* 30 (1), 8–16, DOI:10.1108/07419051311320922. Ch 4. 55
- Waters, R. D., Burnett, E., Lamm, A., and Lucas, J. (2009). Engaging stakeholders through social networking: How nonprofit organizations are using Facebook. *Public Relations Review*, 35(2), 102–106. Ch 3. DOI: 10.1016/j.pubrev.2009.01.006. 36
- Xia, Z. D. (2009). Marketing library services through Facebook groups. *Library Management* 30 (6/7): 469–478. Ch 2. 21
- Ye, S. and Wu, F. (2010). Measuring message propagation and social influence on Twitter.com. *Social Informatics 2010, Proceedings of the Second International Conference, SocInfo 2010*, Laxenburg, Austria, October 27–29, 2010. 6430: 216–231. Ch 3. 41
- Zarrella, D. (2013). *The Science of Marketing: When to Tweet, What to Post, How to Blog, and other Proven Strategies*. Hoboken: John Wiley & Sons. Ch 3, Ch 4. 16, 34, 38, 41, 42, 51
- Zickuhr, K., Rainie, L., and Purcell, K. (2013). Library services in the digital age. Pew Research Center's Internet & American Life Project, January 22, 2013, <http://libraries.pewinternet.org/2013/01/22/Library-services/> Ch 4. 52
- Zimmer, M. (2013). Assessing the treatment of patron privacy in Library 2.0 literature. *Information Technology and Libraries*, 32(2), 29–41. Ch 1, Ch 4. 18, 55

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